SALIENCE & MUSICAL FORM:

ON THE COMPOSITION OF *OBJETS À RÉACTION POÉTIQUE*

FOR LARGE CHAMBER ENSEMBLE

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ABSTRACT

Salience & Musical Form:

On the Composition of *Objets à réaction poétique* for Large Chamber Ensemble

Paul Clift

This dissertation comprises an examination of the author's compositional processes in general, and a discussion of the practical application of these principles in the composition of *Objets à réaction poétique* (2015-16) for nineteen musicians. Most notably, this composition and accompanying dissertation seek to substantiate the author's hypotheses that structural-coherence may be achieved through a process attempting to assess the degree of salience of musical materials, and based upon these assessments, to 'optimise' associated durations & temporal-placements of materials. The various means by which salience may be achieved & quantified are examined in detail, as is the process through which an appropriate setting for the disposition of salient events is created.

FIGURES & MUSICAL EXAMPLES

ORIGINAL COMPOSITIONS REFERENCED IN THIS DISSERTATION

Life Through a Window (2006) for chamber ensemble (18 musicians)

Infinite Regress (2011) for chamber ensemble (10 musicians), featuring texts from Vladimir Mayakovski's *Untitled* (1930) and *Past one o'clock* (1930)

Le détour permet le retour – five movements for string quartet & electronics (2012)
I: *le détour permet le retour*
II: *abstract/anti-abstract*
III: *the beating of my heart keeps me from sleeping*
IV: *reminiscence, as an adult, of sounds and images unrecognised as a very young child*
V: *slight return*

qui, dove mezzo son (2014) for flute & chamber ensemble (8 musicians)

Colours are like memories of other colours (2014) for string-octet & fixed-media playback

On the celestial hierarchy (2014) for chamber ensemble (6 musicians)

presence, absence, degree (2015) for accordion & live-electronics

ACKNOWLEDGMENTS

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Finally, I am thankful beyond words to my companion, Anja, for her unconditional support and commitment to me in all of my creative endeavours.

1. INTRODUCTION

1.1. Background to *Objets à réaction poétique*

Objets à réaction poétique (henceforth '*OARP*'), a work for nineteen musicians of roughly 12' duration, was composed in late 2015/early 2016. It was commissioned by the Fachhochschule Nordwestschweiz Hochschule für Musik and was premiered by Ensemble Zone Experimental at the Hochschule für Musik, Basel, on 3rd June 2016, Jürg Henneberger conducting.

It represents a culmination of research carried out, for the most part, during my time as a graduate student at Columbia University (2009-2016). The work's somewhat unusual instrumentation[1] was imposed by the commissioning body:

- flute I (alto flute, piccolo)
- flute II (flute in C, piccolo, bass flute)
- clarinet (in B♭)
- saxophone (soprano, baritone)
- bassoon
- four tenor-bass trombones
- two percussionists
- accordion
- two pianos
- harp
- two violins
- viola
- cello

Chapter 1 of this dissertation provides some background to the composition of this work; principles which are key to my musical identity in general are discussed in Chapter 2; the application of these notions in the composition of *OARP* are the focus of Chapter 3.

[1] In addition to instruments listed, most performers occasionally double on miscellaneous instruments, the details of which are given in Chapter 3.

1.2. On the work's title

Objets à réaction poétique ['Objects of poetic interaction'] is a phrase attributed to Le Corbusier. With it, the architect refers to his practice of collecting commonplace, disparate objects and combining them in *maquette* form, in order to "experiment with and assess [the] various combinations of shapes and contours" (Morel Journel 2013) which result. Forms derived from this practice feature prominently in most of the architect's edifices dating from 1947 until his death in 1965. Architecture-theorist Fink Shapiro summarises Le Corbusier's idiosyncratic approach thus:

> Fascinated at once by the products of nature as well as the products of industry—both of which are partly rational and partly mysterious—Le Corbusier collected particular shells, stones, bones, and machine parts that spoke to him of creative energy in its infinite potential. He grouped these things under the name *Objets à réaction poétique*. This "poetic reaction" was a release of potential energy, an imaginative impulse leaping from made things to things yet to be made. The collection was an impetus to invention. In these humble yet miraculous objects were hidden countless new ideas waiting to be released. (Fink Shapiro 2013)

The *Chapelle Notre-Dame du* Haut, for which "an empty crab shell found in Long Island in 1946 became the roof" (Pauly 1997) is exemplary of this process. Architecture-theorists have further speculated about the presence of allusions to riverbed stones and pieces of driftwood in this building's design. Thus, the architect allows certain found objects to retain identifiable characteristics, while making only subtle reference to others.

Figure 1-1 – La Chapelle Notre-Dame du Haut (1955)

In choosing this title for my composition, a parallel is suggested between such practices of *assemblage* and musical composition: namely, that the creative essence of a work may lie in the selective juxtaposition of objects, some or all of which may be appropriated and subsequently partially or wholly decontextualised.

2. KEY CONCEPTS

2.1. L'objet sonore

Whilst it is unnecessary to make a long-winded discourse on the transposition of the notion of *object* from the material to the sonic realm, the term, as I will use it, does require some clarification. Curtis Roads offers a concise definition of the *sonic object* in the Schaefferian sense:

> A basic unit of musical structure, generalizing the traditional concept of *note* to include complex and mutating sound events on a time scale ranging from a fraction of a second to several seconds. (Roads 2001)

In addition to Schaeffer's categorisation of sonic-objects according to their fundamental acoustic characteristics (e.g. "complex," "tonal," "varied," etc.),[2] I also take into account semiological criteria, i.e. proximity to pre-existing, connotative sonic entities. Furthermore, I impose no limitations in terms of duration—any duration which is contained within a clearly delineated section is acceptable for my purposes. In these respects, an equally useful sorting of sonic objects could take place along a single-axis plane with, at one end, sounds which are direct appropriations of identifiable sonic elements (e.g. verbatim citation of repertoire, use of sampled, recognisable found-objects, etc.), and at the other, hypothetical sounds which are wholly devoid of connotation. (Nb. Given the near-impossibility of achieving this ideal, I refer to sound-material approaching this end of my spectrum simply as being *maximally abstract*.) In the middle of this spectrum, I place material which is reminiscent or evocative of extant compositional styles (i.e. material which displays stylistic reference) or which evokes in the mind of the listener sounds associated with defined objects/situations without such sounds actually being present (i.e. instrumental simulation/imitation, of, for example, a car horn or an electric drill).

So whereas sonic objects in the work of, say, Helmut Lachenmann tend to be categorised according to "purely abstract compositional consideration(s) based on pure sonic information

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[2] As described in his *Solfège de l'Objet Sonore* (1966)

content" (Mercer 2004), a work such as my *OARP* also attempts to jump from point to point on a continuum of degrees of reference, with literal citation at one extreme and maximal abstraction at the other. In adopting such an approach, it was my intention to draw a clear parallel with the praxis of Le Corbusier: a collection of objects, chosen both for their objective characteristics and their varying degrees of culturally acquired signification, may be combined to form a novel, coherent Gestalt. Practical application of this principle as it relates to the composition of *OARP* will be discussed in Chapter 3.

2.2. Evaluating salience

Whilst there exists a significant canon of research attempting to identify and quantify salience of musical material within a specific context, few theorists have ventured to formulate a theory which operates universally, i.e. one which is broadly applicable to tonal & non-tonal musics. Nonetheless, attempts which have sought to find common ground between the various standard practices of music-analysis[3] and theories of cognition & perception[4] have proven to be of particular usefulness in the creation and refinement of criteria by which I myself undertake such assessments. Not wishing to digress into a survey of, or critique upon, research efforts in this field, I will focus here primarily upon my own hypotheses on the subject.

Common-practice analysis of tonal repertoire is based largely upon an examination—according to the processes prescribed by one or another of the established methodologies—of the parameters of musical grammar (cadences, modulations, periods of stability/instability and the like). In his assertion that "atonal music collapses the distinction between salience and structural importance" (Lerdahl 1989), Lerdahl proposes that by substituting the structural cues of tonal music for salient events in non-tonal music, a certain degree of methodological continuity (i.e.

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[3] As summarised by Bent (1987), Cook (1987), etc.

[4] It is my intention here to draw a distinction between this category of research and that which focuses upon cognitive faculties vis-à-vis individual, discrete parameters of music (e.g. melody, timbre etc., independent of practical context); examples of the latter might be *retention of melody* (Sloboda & Parker, 1985), *palpability of underlying pulse at different tempi and with various surface-level metric subdivisions* (Parncutt, 1994), or *pattern-recognition and unconscious grouping-into-sequences of auditory stimulus* (Deutsch, 1995).

the possibility of applying tonal analysis practices to non-tonal musics) may be achieved, in as much as salient events in non-tonal music have the potential to operate as topographical points of reference, thus fulfilling to some extent the role of the aforementioned structural signifiers of tonal music. In many situations following such an approach serves adequately as a means of mapping structure in atonal works. However, I propose that salient material, in music of any style, is by no means inherently structurally significant. Therefore, the unequal nature in which such a theory treats salient materials in tonal and non-tonal musics limits its usefulness in attempts to define and quantify salience generally. Here, I offer a handful of examples of the use of highly salient material which is of little structural significance: first, in the opening of Mozart's so-called *Dissonanzenquartett* (K465), material played notably by the first violin is highly salient without being of primary structural significance.[5]

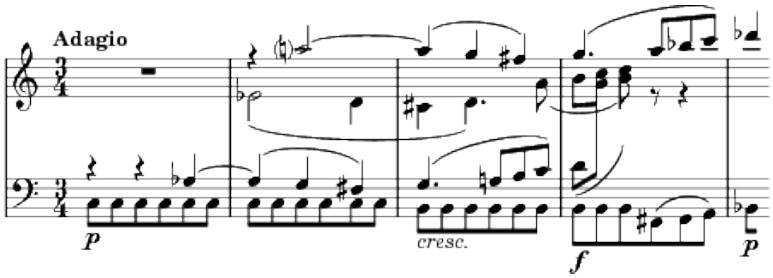

Figure 2-1 – opening 4⅓ bars of Mozart's *String Quartet in C Major,* K.465/I (reduction)

Similarly, Schönberg achieves a comparable paradigm of heightened salience through *stylistic deviation* with the use of a *fortissimo* E♭ major triad at the conclusion of his *Ode to Napoleon* Op. 41.

[5] While this passage has been widely discussed as a curiosity (Leduc [1830],Weber [1832], Fétis [1864], Newman [1925]), little importance is placed upon it in analyses of the movement in its entirety.

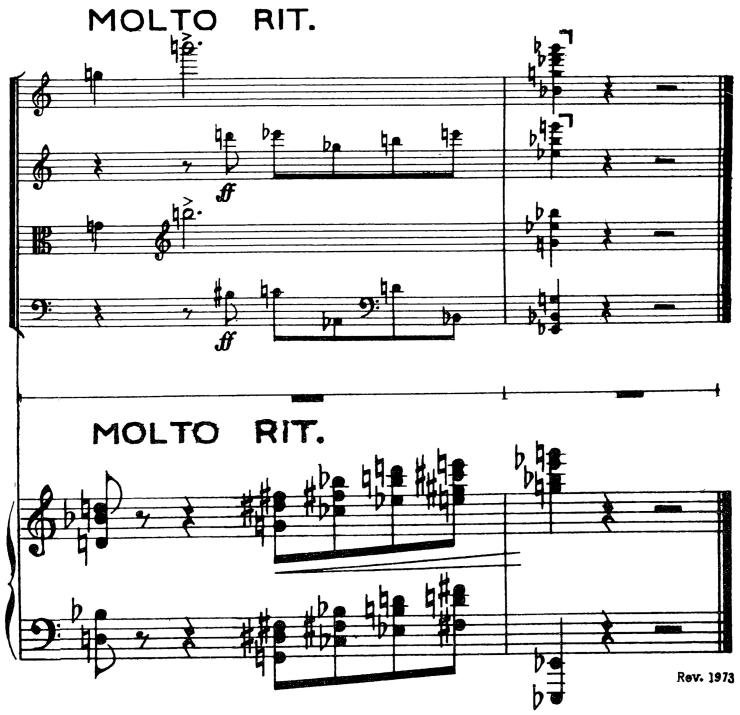

Figure 2-2 – closing measures from Schönberg's *Ode to Napoelon*, Op. 41

A piccolo solo in the *Lever du jour* (part III) of Ravel's *Daphnis et Chloë* achieves a high level of salience by another means; namely, it abruptly shifts the listener's attention from the evolution of a series of slowly evolving sound-masses to a weakly, isolated melodic figure. Such material, in spite of its salience, could hardly be held to be of any real structural consequence.

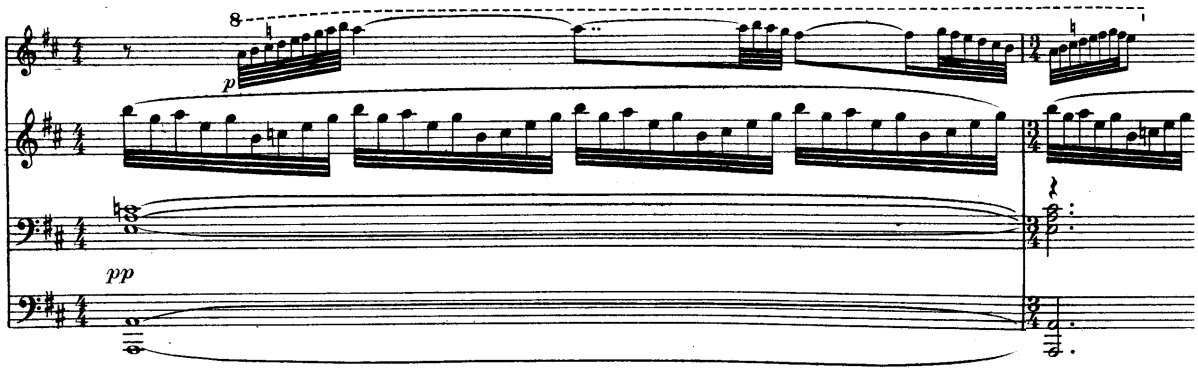

Figure 2-3 – excerpt from Ravel's *Daphis et Chloë – 3ème partie*: Lever du jour (reduction)

Finally, a short figure in mm. 20-22 of the first of Schönberg's *Five Pieces for Orchestra* Op. 16 is, at least in my mind, the only material to exhibit real salience in the movement's opening period. Here, salience is achieved by a sudden increase in density of orchestration. The structural significance of this figure, however, is modest at best. According to common practice of music analysis, it constitutes nothing more a variation of material from mm. 4-5 (nor is it instrumental in the transition to the following section).

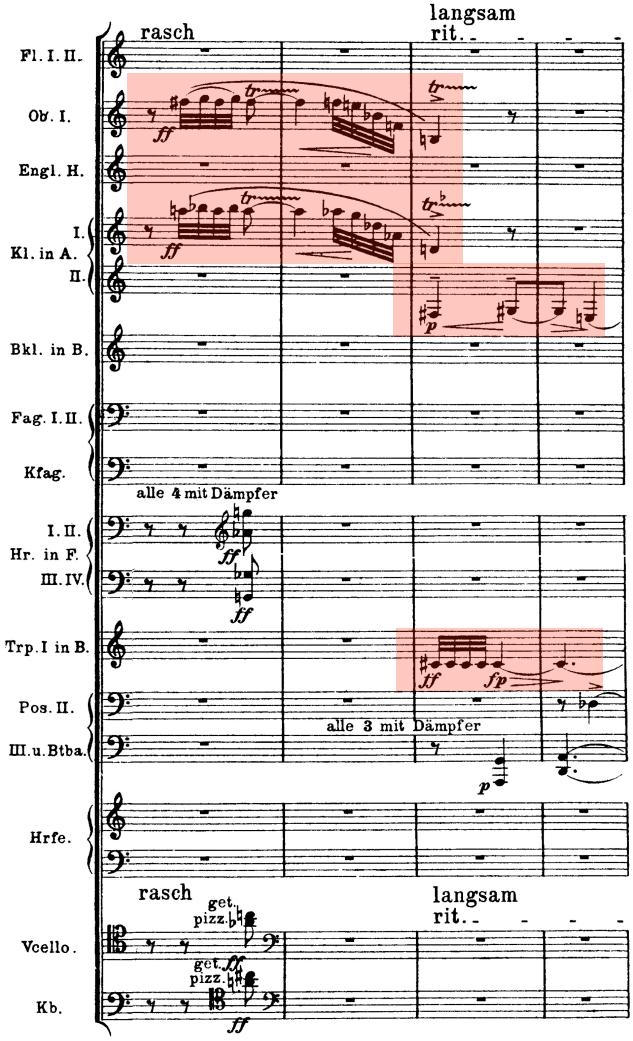

Figure 2-4 – mm. 20-23 of *Vorgefühle* from *Five Pieces for Orchestra* Op. 16

In each of the above examples, salience is the result of one form or another of sudden contrast vis-à-vis the surrounding context. From these excerpts, we may observe that material of constitution X in context Y achieves a comparable level of salience to that of material Y in context X (as with dissonance in Mozart vs. pseudo-diatonicism in Schönberg). It is clearly

beyond the scope of this dissertation to attempt to enumerate salient events in a work such as, say, Beethoven's *String Quartet nº 14*—and to contemplate their structural function relative to comparably salient events in a work such as Stockhausen's *Mantra*. Nonetheless, in presenting this handful of examples, I hope to have demonstrated the problematic nature of viewing figures which exhibit a high level of salience and structural reference points as being inextricably linked. Given that the focus of this subchapter is to speculate about means by which we may assess the level of salience of sonic entities in a broad range of Western-musical contexts (and without consideration of their associated structural significance), I propose the following two questions as a starting point:

1) *To what extent is the material in contrast to its surrounding context?*
2) *How is that contrasting material positioned in time, relative to the work's beginning, ending and/or structural signposts?*

In order to address the first question, we must examine the means by which contrast is achieved (e.g. resolution of a prolonged dissonance, use of a hitherto absent register, placement of accent on metrically weak position, etc.) and, in turn, consider the extent to which that type of contrast is itself capable of producing salience within the syntactical organisation of the work globally.

With regards to the second, we must take into account the time-scale upon which such material depends in order for it to be perceived as contrasting, i.e. upon which mechanisms of memory does such material depend for its characteristics to be fully perceived?

Of course, it is one thing to evaluate salience while listening to a performance of a completed work of music; to do so in the abstract conditions of the compositional work-phase is another matter entirely. Given that the latter is, for a practicing composer, arguably of far more fundamental importance, a desire to refine my critical faculties in this respect has led me to derive the following basic hypotheses, based upon empirical observation, from the notions mentioned above:

- Salience is maximised when sound-*type* (i.e. noise↔pitch), as opposed to variation in established parameters (e.g. fluctuations in dynamics, register, etc.), is contrasted. For example, pitch-based material—or more specifically, material with an explicit harmonic

coherence—within the context of a texture consisting predominantly of noise-elements, will be perceived as highly salient.

- Similarly, material displaying rhythmic coherence (e.g. perceptible regularity, repetitions of a figure at short time-intervals, etc.) within a context which lacks a clearly-defined metric identity, will be perceived as highly salient.
- Contrasts of degree of referentiality (e.g. a recognisable, or strongly connotative gesture, within a context of purely abstract sounds, or vice-versa) similarly prove highly salient; this may take the form of citation, field-recording diffusion, momentary stylistic drift etc.
- Generally speaking, contrasts comprising abrupt, short-lived increases in energy tend to be far more salient than comparably abrupt decreases.
- The salience of material which is repeated, whereby short-term/echoic memory alone allows the listener to recognise that repetition is occurring (i.e. at intervals equal to or less than four seconds apart), undergoes rapid erosion. In contrast, infrequent repetition over a longer time-scale—i.e. one that depends upon declarative/episodic memory in order to be perceived as repetition—has the potential to augment the degree of salience of a given musical material (provided that said material is sufficiently salient in its first iteration as to be subsequently recognisable by the listener).
- Temporal disposition (i.e. placement in time, relationships between materials and their durations, proximity to comparable events, etc.) of salient figures, but also of surrounding elements, is a key factor; this notion demands further discussion and is the focus of subchapter 2.3.

2.3. Balanced vs. unbalanced durations

2.3.1. Definition of terms

> Opinions are much divided concerning the merits of the *Pastoral Symphony* of Beethoven, though very few venture to deny that it is much too long.
>
> –Anonymous critic, from the *The Harmonicon*, London, June 1823

Although the specifics are highly subjective, I feel that it is reasonable to assume that broad consensus exists on the validity of the idea that any piece of musical material (or combination thereof) has an optimal duration, one which is determined by/a consequence of both the nature of the material itself and the context in which it is placed. By ‘optimal’ I intend to express the notion that the material in question is not felt by the listener to go on for so long that it becomes tiresome, nor is it dispensed with before its qualities have been properly communicated. I describe such a relationship between material and duration as being *balanced*, and deviations

from that relationship as being *unbalanced*. When a given sequence of material is felt to end prematurely, I would describe it as being of a *condensed* duration, and when it continues beyond its anticipated end-point, as being of a *protracted* duration. Of course, I readily acknowledge that these terms are flawed because they imply the existence of an objectively 'appropriate' duration for a given piece of musical material. In spite of this, I am often struck by the frequency with which agreement is reached about the appropriateness (or lack thereof) of the duration of a given passage within a work. Therefore, while I do not consider such a qualification to be objective, nor is it entirely subjective. Whilst it is beyond the scope of this dissertation to speculate about the possible cultural conditions which might give rise to consensus in this matter, I believe that I may assert that such a phenomenon is real without being in danger of proffering a baseless claim.

2.3.2. Use of *protracted* & *condensed* durations

In contrast to what one might expect, it is my conviction that balanced durations are not always desirable. On the contrary, I have observed that delaying the arrival of more salient material (i.e. preceding it with a protracted period constructed primarily of material with a *low* level of salience) has the potential to greatly augment the effect that such material has upon the listener. Given that my goal is frequently to maximise the salience of one or more sonic objects, I exploit this phenomenon regularly in my music.

Figure 2-5, taken from my work, *qui, dove mezzo son*, for flute solo & chamber ensemble (2014), is an example of a period of relative stasis, i.e. its composite parts exhibit a low level of salience, and do not, in their present state, contain the elements required to catalyse evolution towards a new section. In my compositions I view this type of texture as a temporal foundation upon which salient, destabilising material may be placed.

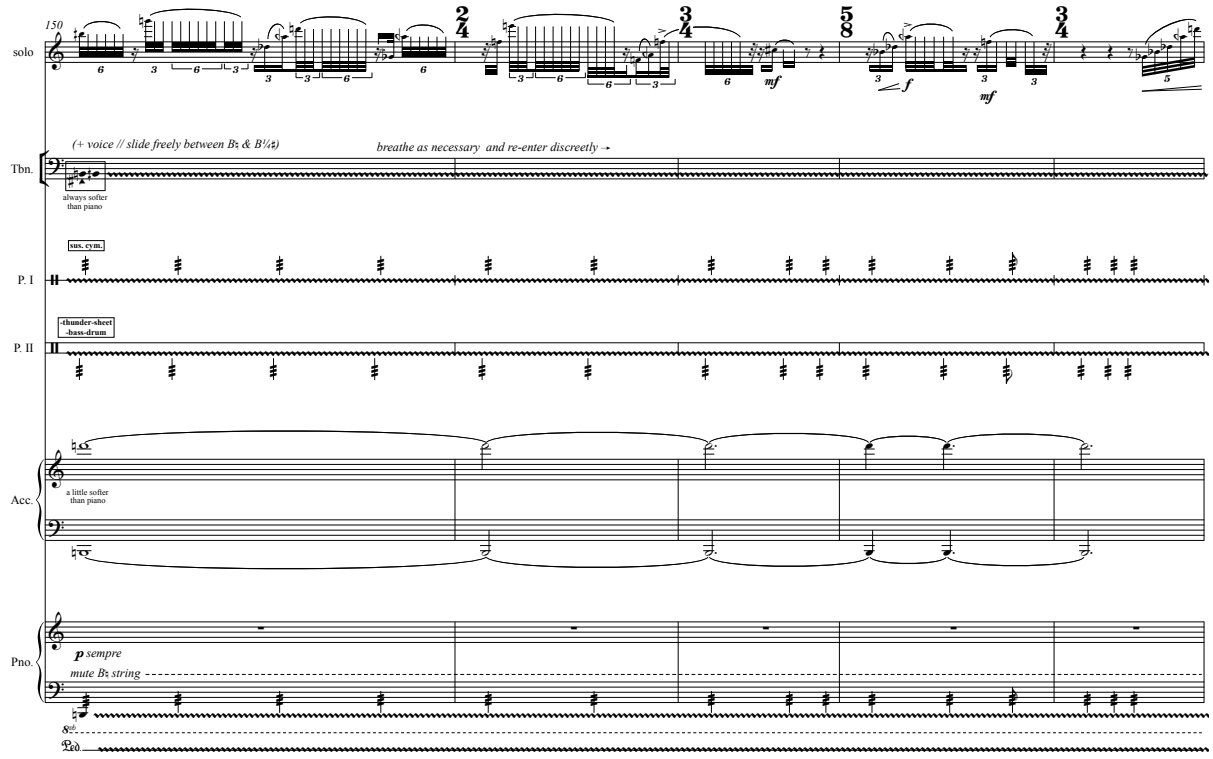

Figure 2-5 – mm. 150-154 of *qui, dove mezzo son* (Clift 2014)

The material shown in Figure 2-5 runs for approximately 43" [~16 measures at ♩=80], during which time it undergoes no tangible development. Given its static nature (and taking into account the context within which it appears, and the work's total duration of around 10'00), I propose that a duration of ~15" (or ~4 measures) would be *balanced*; however, were this texture to dissipate at that point, the effect of subsequently introducing new, contrasting material would, in my view, be greatly diminished. Thus, I submit that whilst new material—when it does finally arrive—may be highly contrasting in nature[6] (see Figure 2-6 for relevant score excerpt), its salience is largely a consequence of the protracted nature of the preceding period.

[6] Specifically, it is of a relatively much higher intensity in terms of volume & timbre, and constitutes a clearly defined harmonic entity, in contrast to the largely noise-based, static texture which precedes it.

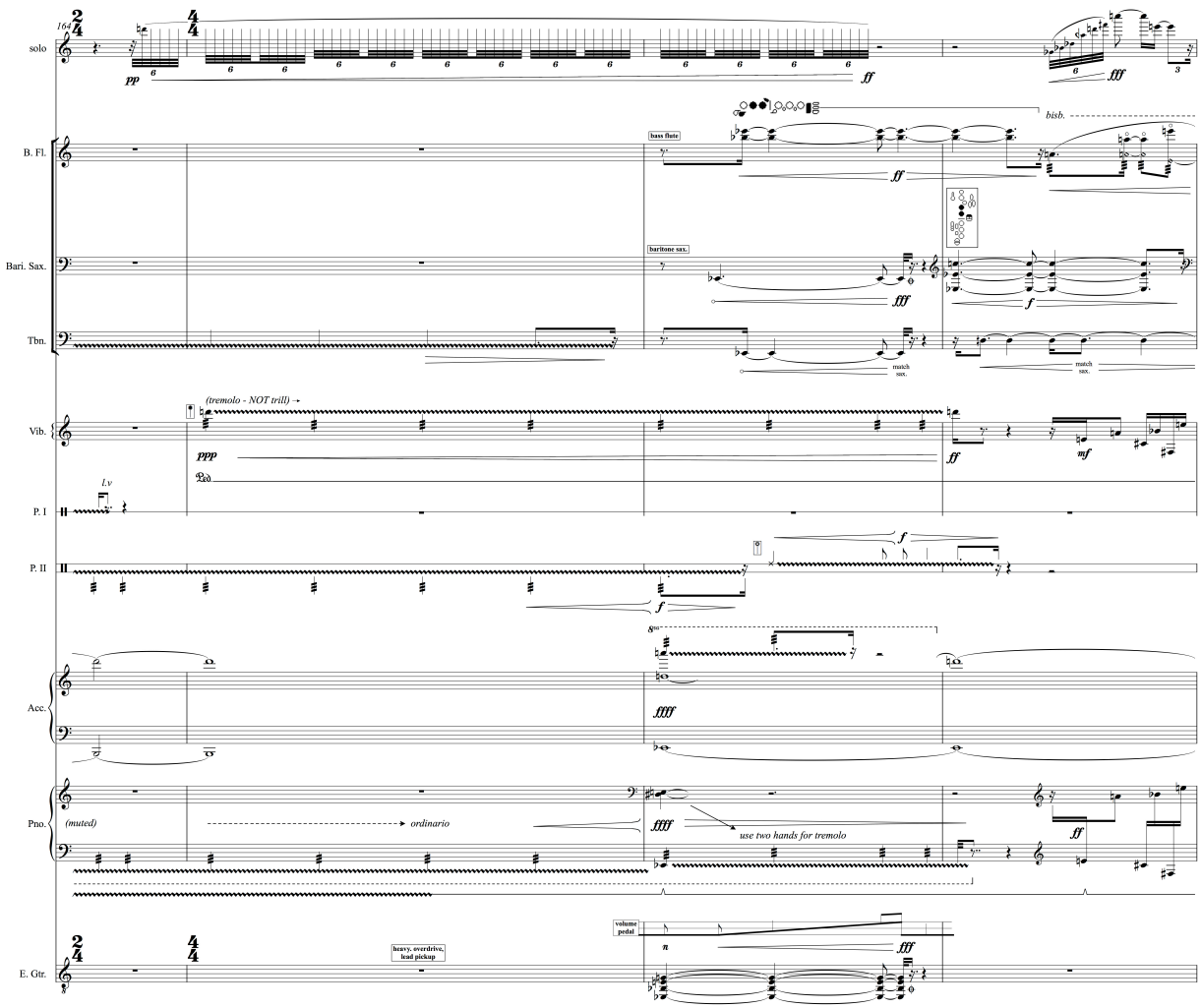

Figure 2-6 – mm. 164-167 of *qui, dove mezzo son* (Clift 2014)

An imbalance in the opposite sense, i.e. whereby durations are in condensed proportion relative to the material contained within them, may prove to be an equally useful compositional device. I generally apply this technique to material which is deemed to contain a *high* degree of salience. I have observed that such a practice intensifies tension and anticipation vis-à-vis potential future repetition and/or development of the salient material. Furthermore, it serves to balance out the effect of the use of protracted durations elsewhere.

Figure 2-7 is an excerpt from my work, *Colours are like memories of other colours* (2014) for string octet & fixed-media playback. In the second measure of this example, a fairly salient event arrives after a protracted period of relative stasis: a texture of sustained, louder material (which includes the reintroduction of sound-file playback) with clearly defined harmonic content

and rhythmic regularity abruptly intrudes upon the sparse, pointillistic, quasi-randomness of the preceding texture (comprised predominantly of pizzicati). This salient material lasts a mere 12" (a very short duration indeed given that the preceding, largely static passage lasts around 1'05). Within the context, a duration of around 30" would be, in my opinion, balanced. However, such a duration would diminish the material's potential to generate tension, thus significantly reducing its level of salience.

2.3.3. Practical application on a structural level

To broadly summarise my compositional approach: I often conceive a work as being a series of fairly clearly defined, almost panel-like sections. Such musical units are often composed *in toto* before it becomes clear where precisely they will be placed within the global architecture of the piece. Within a given section, I tend to think of material as being predominantly either *static* or *destabilising*: static material is typically of low salience (as with that of Figure 2-5), while more salient material serves to destabilise and thus, to catalyse motion from one section to another. Typically for the listener, the presence of a particular combination of materials constitutes the identity of a given section, and the erosion of that combination—coupled with supersession by new, sustained materials—signals the section's end. However, during my compositional process, I view major changes in the equilibrium of more/less salient materials, as opposed to salient figures per se, as the true structural signifiers.

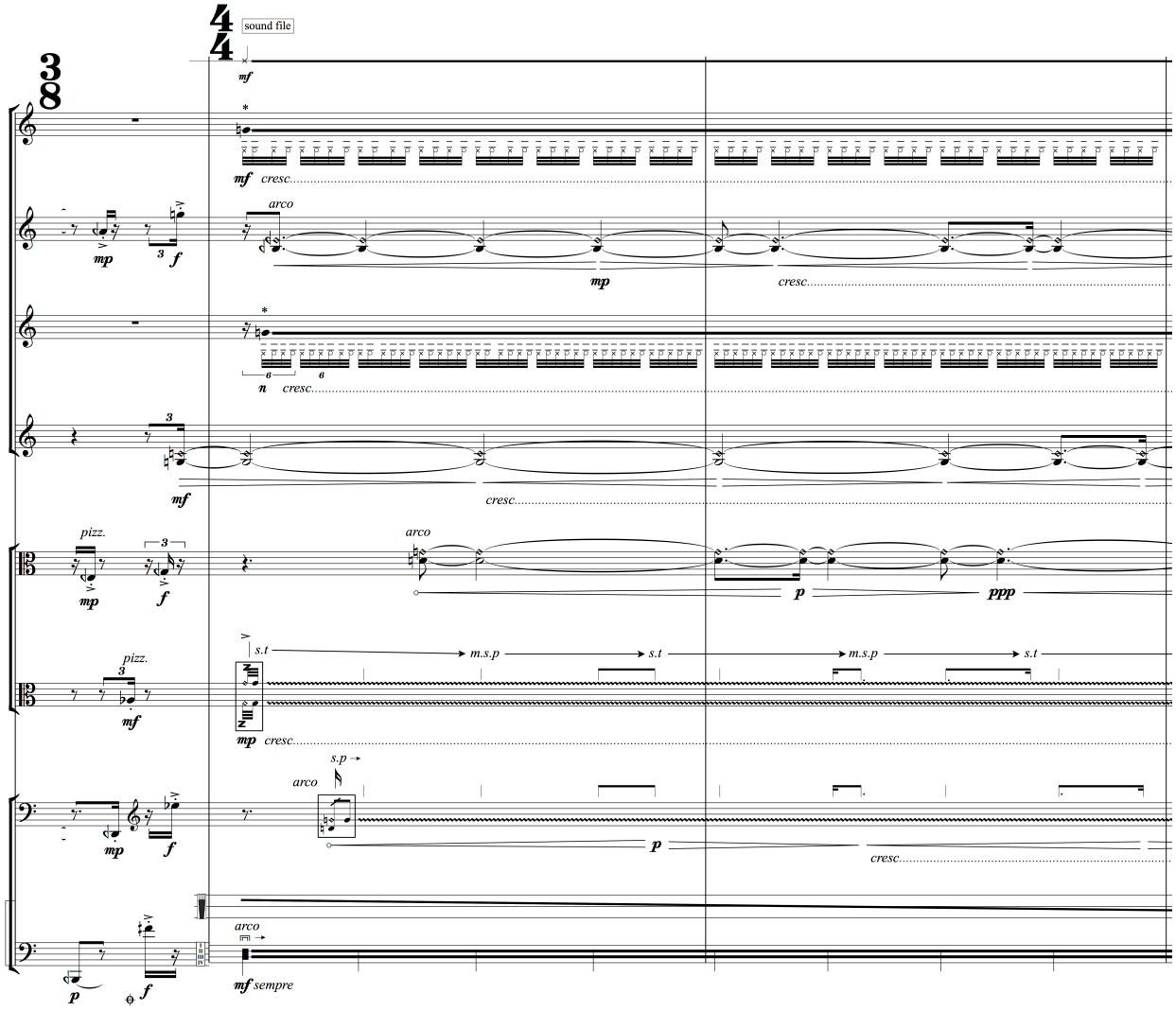

Figure 2-7 – mm. 140–142 of *Colours are like memories of other colours* (Clift 2014)

Generally speaking, given that the salience of *any* material is inherently short-lived, I am inclined to see the logical end-point of a given gesture as the moment whereby its salience begins to wane (as opposed to working according to some other formal criteria, such as consistency of phrase-length, numerical logic, etc.). The degree to which such a period is condensed may then be applied in reverse proportion (intuitively, without the use of mathematics) in order to determine the level of protraction of surrounding, static material. Ideally, this will give rise to a section whose duration, globally, is felt to be balanced.

The following basic schematic illustrates one way in which I might order my material:

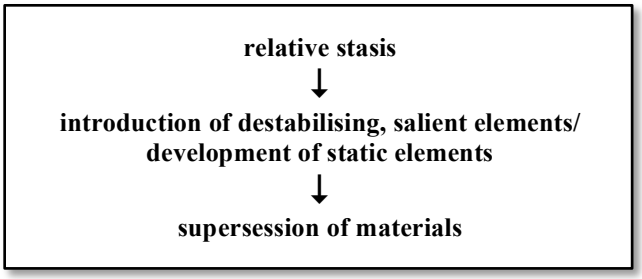

Figure 2-8 – reductive example of the possible constitution of a section

Musical examples shown in this sub-chapter follow this model: in the case of both cited works, a sense of balance in the overall-structure depends upon a perceived equilibrium between the protracted duration of periods of relative stasis and the condensed durations of periods of destabilisation/development.

2.4. L'objet trouvé

2.4.1. Text & speech

Text recitation has featured prominently in my music since the composition of *With my limbs in the dark* (2009, for chamber ensemble, live-electronics & dancer), in which I made use of excerpts from Joseph Brodsky's *Seven Strophes* (1981). In this work, a recitation of parts of the poem was pre-recorded and diffused electronically at moments when the instrumental texture was sparse and subdued; thus despite the 'cut-up' nature of the text-material, the words themselves were largely intelligible to the audience. Such a technique is doubtlessly inspired by the use of spoken word in the third movement, *In ruhig Fliessender Bewegung*, of Luciano Berio's *Sinfonia* (1968), the effect of which I immediately found to be very striking and wished to explore in my own work. Since then, I have come to view the role of the voice in my work as far less semantic in nature. Rather, I use speech as means of generating ambient noise, sonic-material which is intentionally haphazard and banal, and which intrudes upon the fragile sonic environment of the performance space. To this end, recitation is never metered or executed according to a prescribed rhythm; performers are simply instructed to recite a given segment of text over the course of a loosely defined duration, and without any interpretive inflection. My impulse to incorporate such sonic material comes from the wish to balance the synthetic purity of

the instrument with something proportionately crude and commonplace. This inclination stems from a perceived discrepancy between the type of unimpaired transmission of materials which the composer imagines during the work phase, and the practical reality of the performance environment. In other words, I use speech to *reinforce* the ambient, polluting sounds of the performance space which, though entirely beyond the control of the composer, nuance perception of performed works to a considerable degree.

Text recitation in my compositions since 2010 are typically obscured by instrumental sounds; wind and brass players are routinely asked to speak into their instruments, essentially rendering their speech unintelligible. In such cases (i.e. where there is consistently little or no chance of intelligibility of recited material), the choice of text is arguably of little importance. Nonetheless, I regularly draw upon works by writers whom I admire (Brodsky, Mayakovski, Rilke, but also Nietzsche, De Saussure, Bloom) for material, based on the pretence that something of the essence of the words will be operating, out of sight, but nonetheless present, within the mechanisms of the work.

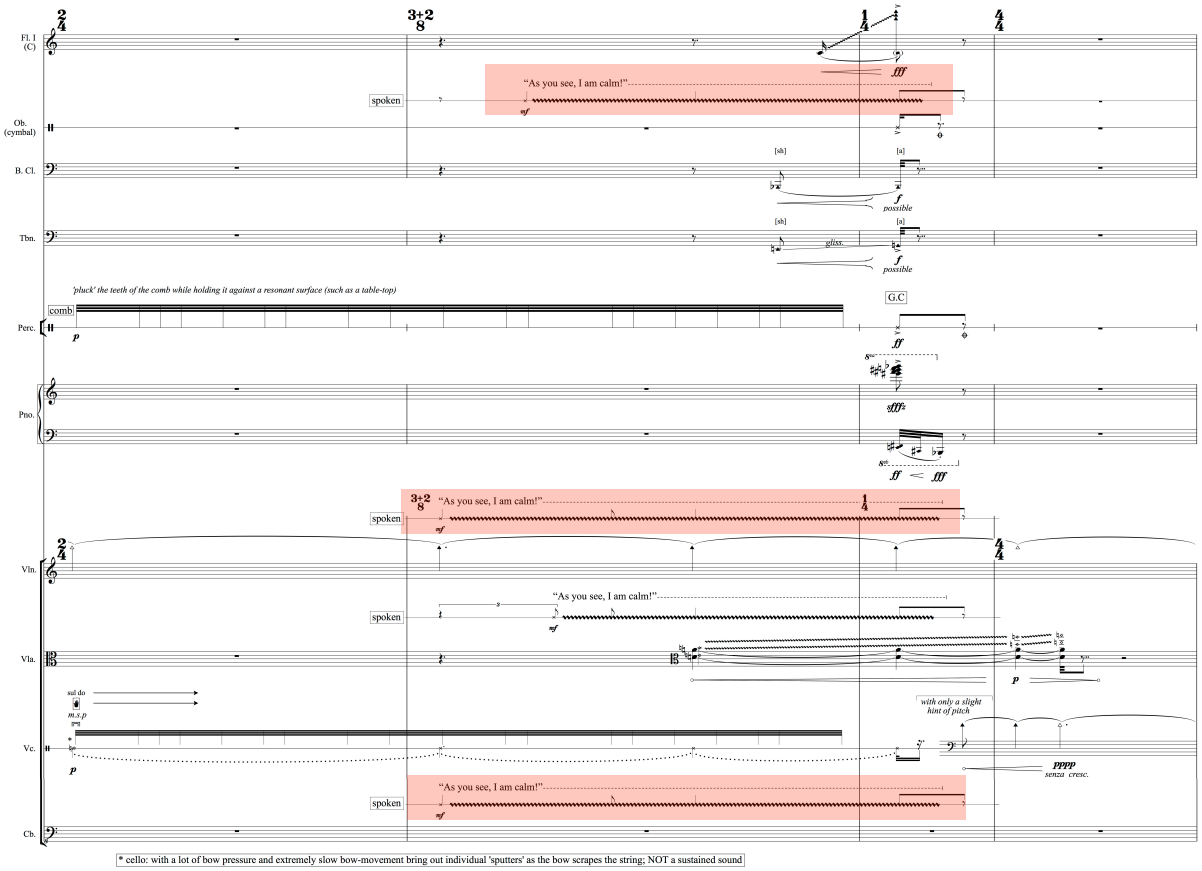

Figure 2-9 – excerpt, *Infinite Regress* (Clift 2011)

Given the sonic characteristics of speech in such a context, I generally rate this type of sonic material quite low on my salience scale, and therefore, integrate it according to the parameters described in sub-chapters 2.3.2 and 2.3.3. For example, in my work *Infinite Regress* (2012) for chamber ensemble, spoken phrases often begin at particularly quiet moments but are overpowered by the introduction of more forceful instrumental material (see Figure 2-9).

2.4.2. Citations of repertoire

Occasionally while composing I find that a fragment from a familiar piece, typically one which shares some characteristic or other with the material on which I was working, persistently and obsessively (but without active effort on my part) intrudes upon my thoughts. (I suspect that such a phenomenon is commonplace among composers.) Whereas for a long time I would have disregarded the association which my unconscious was making—and perhaps even considered

rethinking my own material in order to distance it from potential, unwanted reference—, I am now inclined to allow such connections to evolve, and in some instances, to incorporate the fragment outright into my own piece. Of course, given the unpredictability of the phenomenon described here, I cannot decide a priori that a given work is to be cited; each case is ad hoc and the decision to include such external material is usually made fairly late in the overall compositional process.

My interest in this type of unconscious appropriation issues from a meeting with French composer Gérard Pesson in 2006. Whilst Pesson's use of citation is based upon impulses different to my own, I was struck in listening to his music at the effect that the presence of familiar repertoire could have. *Nebenstück* (1998) for clarinet and string quartet, for example, is essentially an 'orchestration from memory' of Brahms' *Ballade Op. 10, n°4*, a work which Pesson had not heard for several years prior to his undertaking. The objective was not to faithfully reproduce the original but rather to give manifestation to the transformative processes of memory:

> In transcribing a ballade by Brahms I have tried to fix objectively the strange contamination that exists between musical invention and memory. The works that haunt us often crop up when we think we have plucked an idea from nowhere, and as they spring back they colour our obsessions, for, in art, research is a concomitant of unceasing archaeology. [...] If that ballade stayed with me for so long, it is because I never heard it other than in my memory, where it gradually rusted, like something fallen into the sea. Trying to transcribe it was like trying to fish it out again. [...] My memory had always multiplied those few bars where Brahms makes a chord turn in on itself, and in order to remain faithful to this false impression, I wrote them out as such. (Pesson 1998)

Concretely, citations in my works are either *explicit*, i.e. verbatim reproduction, which therefore give rise to stylistic inconsistency—such usage is akin to the grafting of a branch of one type of plant onto another whereby the characteristics of both remain essentially in tact—, or *discreet*, and therefore, woven into the aesthetic identity of the work. In cases of the latter, material is often modified to fit the context into which it is placed, i.e. its aesthetic characteristics are attenuated or exaggerated in one way or another.

Figure 2-10 is an example of discreet citation from my work *Le détour permet le retour* (2012) for string quartet & live electronics. Here, a distorted citation of a fragment from the opening bars of Ravel's *String Quartet* is used:

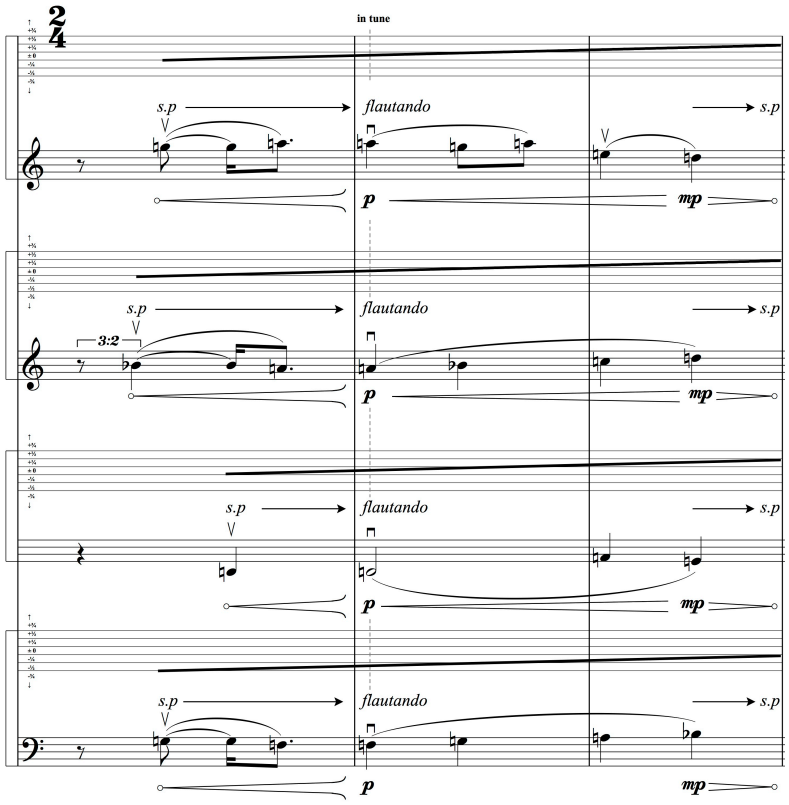

Figure 2-10 – excerpt, *Le détour permet le retour* (Clift 2012) / 2nd mvt.; six-line staves denote degree of detuning.

To this I would add that *stylistic imitation*—i.e., material which causes a tangible shift in aesthetic towards something which is foreign to the work's syntax but which is not directly taken from an extant source—also counts as a form of citation (even though such entities can make no pretence of being the result an unconscious process). In my work, *On the celestial hierarchy* (2014) for flute, clarinet, piano, percussion, violin, viola & cello, for example, I sought to imitate Purcell's polyphonic style (without resorting to citation) in the part for piano.

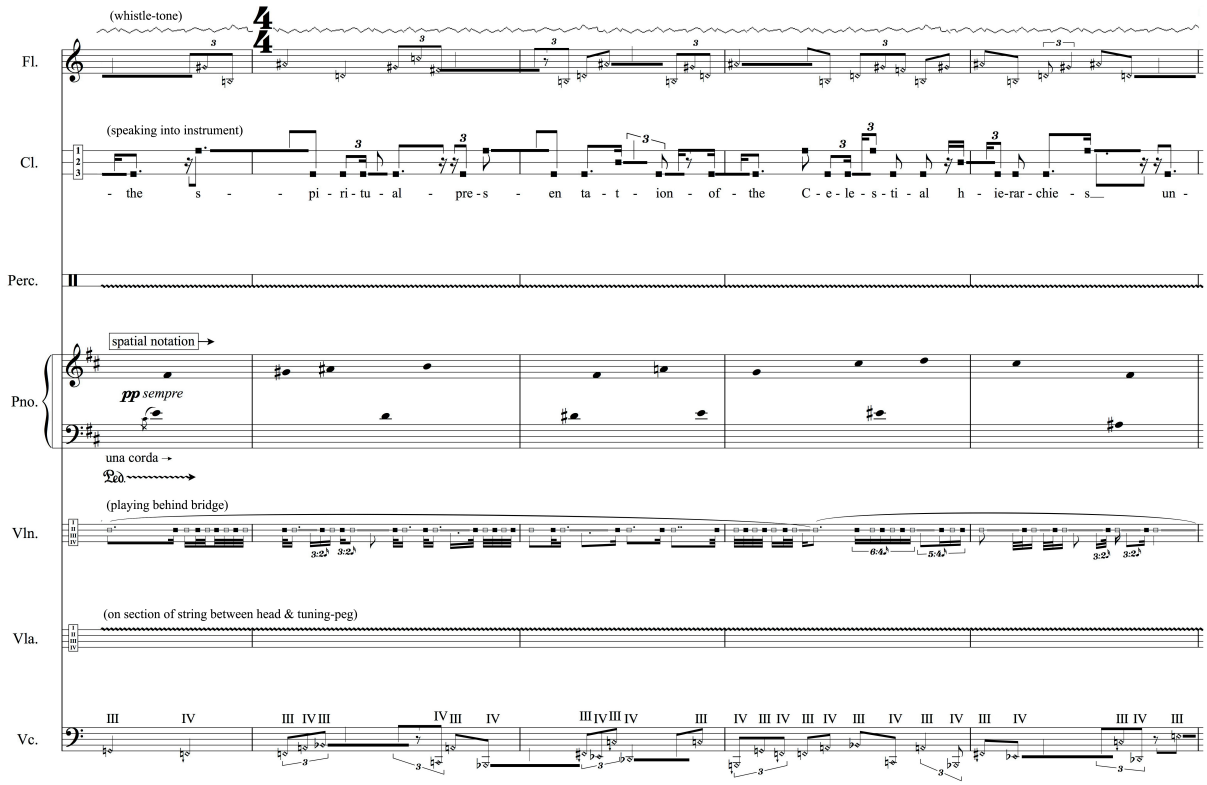

Figure 2-11 – excerpt, *On the celestial hierarchy* (Clift 2014)

In conclusion, I have come to see my propensity to embrace the resonances of my musical culture and background, and the personal associations that arise between material of my own creation and known extant sources, as important components of my creative identity. As discussed in subchapter 2.4.2, I have observed that material which is contrasting in its degree of referentiality, when used sparingly, tends to be highly salient. Thus, within my own works, I contextualise such material in accordance with the notions already described regarding the nature and distribution of salient objects.

2.5. Object-oriented composition

> Cognitive psychology has shown in recent decades that humans structure stimuli in certain ways rather than others. Comprehension takes place when the perceiver is able to assign a precise mental representation to what is perceived. Not all stimuli, however, facilitate the formation of a mental representation. Comprehension requires a degree of ecological fit between the stimulus and the mental capabilities of the perceiver.
>
> –Fred Lerdahl, from *Cognitive Constraints on Compositional Systems*

It is now appropriate that I elaborate upon the relevance of my research on pre-compositional/sketch materials of Salvatore Sciarrino. Whilst few have ventured that a discernible influence of Sciarrino is audible in my music, our work practices, as it happens, are strikingly similar, in as much as we both employ a system of 'graphic tablature' during the pre-composition phase to aid in the structural organisation of salient events. Such an approach lends itself particularly well to compositional processes founded upon a temporal/spatial organisation of sonic objects, as opposed to those favouring a stratification/development of individual lines. Of course, it would be a gross over-simplification to view these approaches to organising sound as antithetical or mutually exclusive to one another. Rather, I simply wish to state that the use of a codified graphic system whereby representative shapes & lines indicate the placement of musical figures and gestures in time, but convey little or no information with regards to specific pitch, is most fitting for a context favouring elements which are short-lived and in contrast to surrounding materials (i.e. 'objects'), as opposed to one of longer, progressive transformations, or textures composed of multiple 'voices'.

I should preface this discussion further by stating my opinion that, given the stark contrast between perception of visual and sonic stimuli—most obviously in terms of temporality, but also of spatial/contextual perception, etc.—most attempts to draw parallels between the two are of little practical use. However, as a preparatory step, I have found that a system which capitalises upon our ability to identify patterns and proportional relationships visually to be an extremely useful means of organising the placement in time of salient musical objects.

Upon reading Salvatore Sciarrino's composition treatise, *Le figure della musica: Da Beethoven a oggi* (1998) I was quite taken aback to discover a striking resemblance between the type of representational sketch materials he produced and my own pre-compositional scribbles. I was therefore eager to deepen my understanding of the role that such materials played in the processes of this composer whose music I admire so deeply. It was primarily for this reason that I sought to obtain a fellowship to study his archival documents at the Paul Sacher Foundation in 2013.

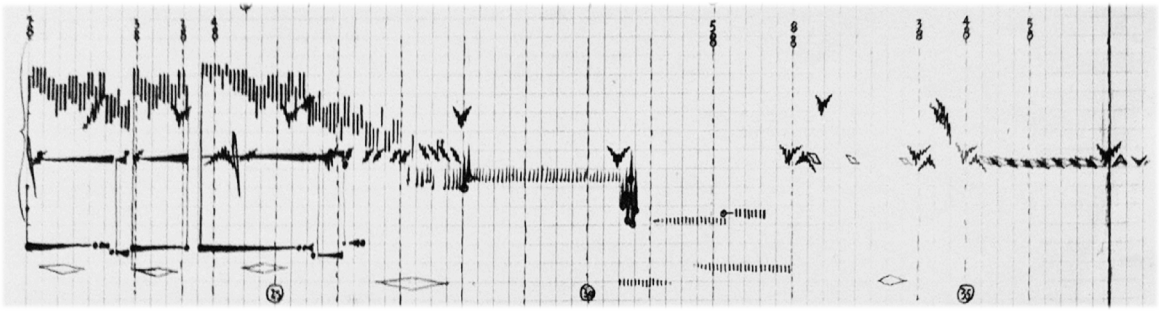

Figure 2-12 – 'object-based' tablature of *Il Silenzio degli Oracoli* (1989) for wind quintet, by Salvatore Sciarrino

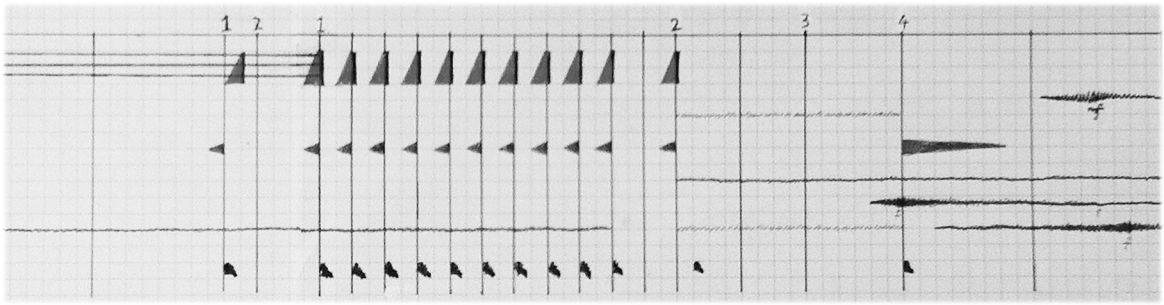

Figure 2-13 – graphic representation of excerpt from *Infinite Regress* (Clift 2011)

Notable among my observations was that Sciarrino's pseudo-tablature is highly codified, i.e. its systems of representation remain consistent from one work to the next. This process was formalised relatively early in the composer's career[7] and, as I saw, has remained largely unchanged to this day. Given the consistency in representation of specific instrumental gestures with a lexicon of shapes and contours, one is quickly able to learn to 'decipher' these documents with a high level of accuracy. Indeed, anyone who is familiar with Sciarrino's music would

[7] Specifically, around 1973, when Sciarrino was 26 years old.

easily be able to associate such sketches with specific works at a simple viewing (since in most cases these representations were consistent with final editions of published scores). This was significant for me because prior to this encounter I had never thought to formalise this aspect of my process. Rather, with each work I conceived a new, ad hoc system – a procedure which in retrospect I recognise to be quite inefficient. Furthermore, the stage in my process at which I created such material was highly variable: for one piece it may have constituted a preliminary step, for another it may have taken place during final revisions. Therefore, despite a recurrent impulse to incorporate such a procedure into my compositional process, the precise role that it played was not particularly well-defined.

I feel that my mature compositional identity emerged in the period from roughly 2006-09. I base this statement upon the fact that works such as *Action Painting* (2006) for piano solo, *Boundary Markers* (2008) for bass-clarinet & real-time electronics, and *With my limbs in the dark* (2009) for chamber ensemble, real-time electronics and dancer, remain demonstrative of my present creative preoccupations and idiosyncratic style. In my works dating from and since 2006, one may observe the recurrence of a lexicon of instrumental gestures—musical material with which I feel I am best able to express my creative identity and which, through its recurrence, contributes to stylistic coherence from one work to the next. Under these circumstances, it was simply a matter of devising a system whereby such material may be satisfactorily represented visually. The graphical elements which I created and associated with instrumental gestures were then refined over time in order to constitute subjectively optimal representations—i.e. towards those deemed to be most perceptually evocative—of the musical material which they are intended to describe.

Since 2013 I have routinely relied upon this process in the structuring of object-oriented sections in all my works, and this in each and every case at the point in the process where material to be used in that section has been defined but not yet structured. Figure 2-14 is an example of the graphic representation of a series of overlapping high-register string harmonics—each of which fades in and out—from my work *Colours are like memories of other colours* (2014) for string octet & fixed-media playback. Most significant here is the clear illustration of the contours & durational relationships of descending figures.

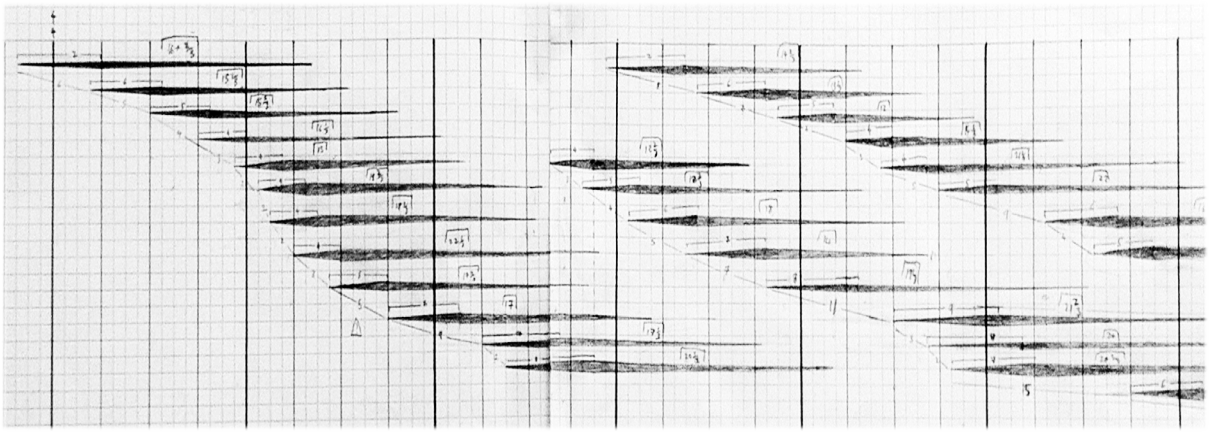

Figure 2-14 – graphic representation of excerpt, *Colours are like memories of other colours* (Clift 2014)

2.6. Pitch structures

The pitch material used in the vast majority of my works from the past decade is organised according to a system whereby segments of a prime and inverted harmonic spectra are superimposed in such a way that all pitches constitute components of multiple harmonic spectra. In order to maintain intervallic relations, pitches are fixed in register. This system may be used to create a virtually infinite number of pitch sets, and therefore, may easily be tailored to accommodate one or more specific instrumental effects (e.g. the incorporation of pitches contained within a given instrumental effect, such as a multiphonic). All such sets display the feature of contrasting registers of relative density (i.e. where consecutive overtone components are from higher up in the spectrum) with those of relative paucity (where lower overtones are used). Figure 2-15 is an example of such a system. (Nb. Given that this pitch-set was destined to be used in the composition of a work for accordion, all microtonal deviations have been approximated to the nearest semitone.) In it, numerals indicate partial number (*f*) and the boxed note-heads the fundamentals associated with each given group (the latter is not shown for spectra whose fundamentals are in impractical extremes of register).

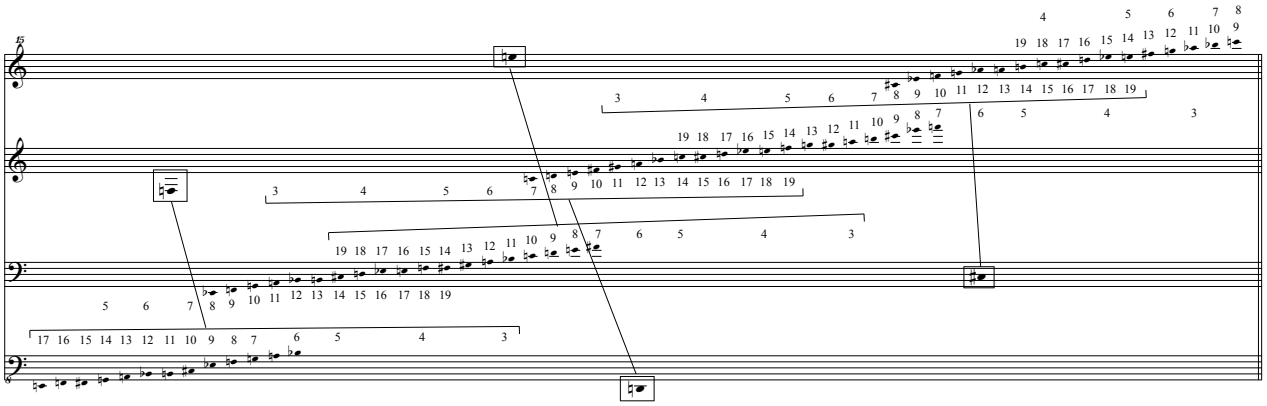

Figure 2-15 – ‘pitch-set’ used in *presence, absence, degree* (Clift 2015)

This set begins with an inverted spectrum, running from *f*17 to *f*3, and relative to a fundamental of F3 (enclosed note head on the second stave). The fourth pitch (G2) corresponds to both *f*14 in the initial, inverted spectrum, and *f*5 in a superimposed prime spectrum above it with a fundamental of E♭0 (not shown) which continues upwards to *f*19. Similarly, C4 corresponds to both *f*7 relative to a fundamental of D2 and *f*10 relative to E7. In such as system, all pitches constitute components of at least two distinct spectra; in this example, a few, such as C♯4, belong to three distinct spectra.

Transitions from prime to inverse spectra is effected through the use of one or more *pivot notes*, i.e. pitches which are common to both spectra. In the case of the set shown in Figure 2-15, prime-inverse pivots are *fs* 8/9 & *fs* 17/16. In sets created for other works, this parameter is determined according to the compositional material with which I am working. For example, certain materials may favour the presence of sequences of stepwise semitones or quarter-tones (necessitating a pivot on a higher partial) whereas others may be more suited to sequences comprising lower regions of spectra (i.e. bigger intervals; this results from using lower partials as pivots). Fundamentals are typically chosen based on the tessitura of the ensemble for which I am writing.

Typically in my music, such a system is fairly rigidly adhered to from beginning to end of a given work. Occasionally, I might switch between pitch sets from one section to the next or in order to accommodate a certain effect (such as the coherent integration of a multiphonic I wish to use), and on a few occasions, I have used a process of interpolation between two sets as the basis for creating transitional harmonies. However, generally speaking I have found that a single

instance of such a system yields exceptionally rich and diverse harmonic material and as such, only rarely becomes exhausted within the context of a 10-15' work. As such, a single pitch-set typically remains in use throughout a given work and 'modulations' are not deemed necessary.

Exceptions, whereby I wish to use a pitch that is not contained in my set, are allowed in cases where, for example, I wish to reinforce a given pitch harmonically (i.e. to place pitches above it which are in just-relationships), or, as we shall see, when citations are used. In the latter case, little attempt is made to force external material into the confines of the system. Additionally, if a particular effect—such as a multiphonic—is used, it is not deemed essential that all of its constituent pitches concur with those of the set.

It should be noted that while I make use of pitches in just/harmonic relationships to one another, it is rarely my intention to compose with 'spectral chords' (for this reason, my music is most often in quarter-tone resolution as opposed to any other subdivision of tones). The presence of segments of inverted spectra and the use of their components in combination with components from harmonic spectra invariably gives rise to *inharmonic* chords, of the kind that form the basis of my idiomatic harmonic language. Of course, it is conceivable that an entirely different process might have given rise to material with a comparable harmonic identity. As such, I acknowledge that my adherence to the system described here constitutes little more than an arbitrary creative choice.

Given my voluntary adoption of such a system and inclination to follow it quite rigorously, I find it important to balance pitched materials with layers of noise, or in the very least, with textures of arbitrary/non-specific pitch. In many of my works, pitched material and noise elements are viewed as separate voices in a polyphonic texture, with growth and/or prominence in one giving rise to erosion in the other.

3. FORM & STRUCTURE IN *OARP*

> Our science has always desired to monitor, measure, abstract, and castrate meaning, forgetting that life is full of noise and that death alone is silent: work noise, noise of man, and noise of beast. Noise bought, sold, or prohibited. Nothing essential happens in the absence of noise.
>
> –Jacques Attali, from *Bruits* [Noise: The Political Economy of Music]

3.1. General notions

I will now discuss the ways in which concepts described thus far were relevant to the composition of *Objets à réaction poétique*. Consistent with my comments about the use of 'panel-like' sections in my works, *OARP* consists of four distinct parts (corresponding to rehearsal marks A, B, C & D in the score).

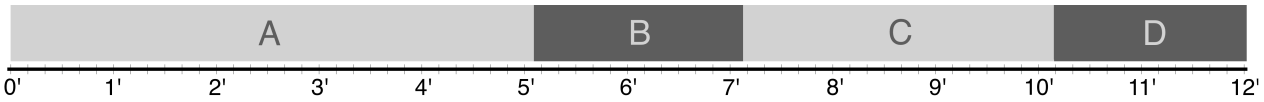

Figure 3-1 – primary structural subdivisions in *OARP*

The pitch set (presented in APPENDIX 1, and constructed according to the logic described in sub-chapter 2.6) is used throughout, i.e. it does not undergo modulation at any point, and pitches remain fixed in register. To summarise:

- it is constructed of quarter-tone-resolution segments of harmonic spectra, specifically *f*s 5 – 17
- it pivots between prime and inverse spectra on *f*s 8/9 & 15/16
- such a configuration yields a scale of intervals which consists of (values shown in tones): ½ - ½ - ½ - ¾ - ¾ - ¾ - ¾ - 1 - 1 - 1 - ¾ - ¾ - ¾ - ½ - ½ - ½

This particular pitch set was created in order to accommodate a number of the instrumental effects which I wished to explore throughout the work. My point of departure was the pitches contained within the opening multiphonic gesture (A2-7 in flutes, clarinet, saxophone) and the

saxophone multiphonic and associated harmony (presented in flutes, clarinet and strings) which appears in A15. (This material is discussed in detail in sub-chapter 3.2.) Once it had been determined that these figures were to feature prominently, it was simply a matter of finding the combination of prime and inverse spectra, and the associated pivot tones, that was best able to accommodate them. The vast majority of material which was subsequently composed draws from this pitch set, with the notable exception of cited material and pitches which are intended to provide just intonation reinforcement of established harmonies (neither of which, as discussed, is required to follow the constraints of such a system).

3.2. Section A

The opening section is an attempt to create textures which are in binary opposition to one another; its two primary constituents are:

- material of a variable, but generally low level of salience, namely: highly protracted, static material played at low intensity, which itself contrasts noise based elements (bowed thunder-sheets, blowing through the pages of notepads) with a repetitive pitch-based figure played by flutes I & II, clarinet & saxophone [Figure 3-2]; this material is initially presented at rehearsal marks A1 & A2.
- condensed material of high intensity and salience (*vide.* rehearsal mark A3), which is always introduced abruptly.

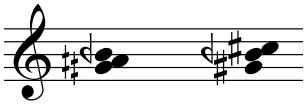

Figure 3-2 – quarter-tone-approximated reduction of the woodwind-multiphonic object featured from rehearsal marks A1 to A7; the first three pitches are from multiphonics in the clarinet & saxophone, and the second from the same in alto- & C-flutes.

The binary nature of this section's distribution of materials is consistent with the notions described in sub-chapters 2.3.2 & 2.3.3, in as much as the condensed nature of the more salient material is intended to balance the protracted duration of the static material. To put it in other terms, noise-based material, which lacks any clearly defined rhythmic profile nor does it

contribute to the harmonic identity of the section, functions as a textural foundation upon which pitched material, namely that of the flute, clarinet & saxophone, may be distributed.

Figure 3-3 is a reductive illustration of density of material in this section (darker shading indicates more salient material):

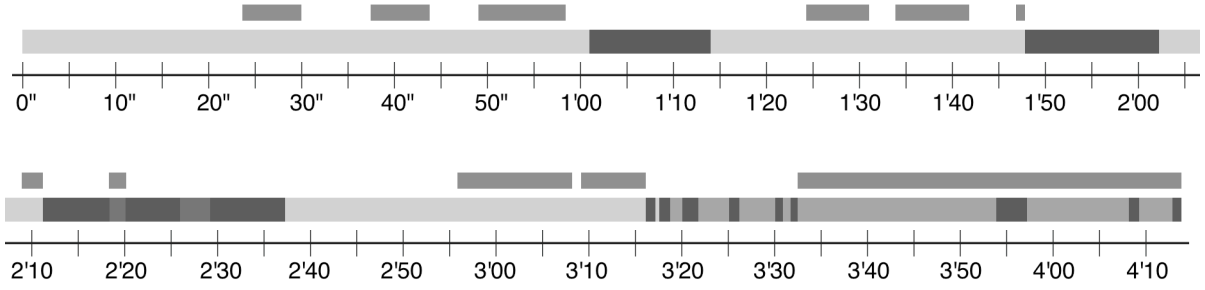

Figure 3-3 – visual summary of contrasting material, section A1 to A13

Dense passages in section A consist of layers of looped-material in one of a.) upward motion (all four bowed strings; additionally, material played by both pianos generally generates a sense of upward motion), b.) downward motion (glissandi trigger *bisbigliandi* in all four trombones), or c.) stasis (bassoon & accordion). This material becomes more and more condensed with each appearance, culminating at rehearsal mark A10, after which only the initial onset remains. Concurrent to this, surrounding/contrasting soft material undergoes gradual development: most notably, noise-based material is thickened with the introduction of speech—initially in the trombones in measure 30, and subsequently in the clarinet and saxophone at A9 and both pianos at A10. Additionally, the harmonic content of these periods begins to assert itself: the initially sparse, circular motion of the woodwind multiphonics becomes more constant and dense in quality as it is reinforced by string harmonics. This culminates at rehearsal mark A15 with a sustained static period built upon the following harmony (which is itself an extension of the harmony resulting from the initial multiphonic cluster):

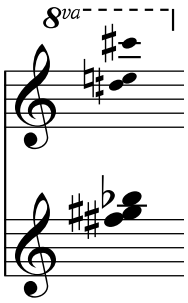

Figure 3-4 – reduction of harmonic content at A15; small note-heads indicate a lower level of prominence

At the section's conclusion, the period is ultimately destabilised by the gradual introduction of elements operating at a much faster tempo, i.e. stasis is eroded through a process of *densification*; this transformation announces the arrival of section B.

3.2.1. Citation of repertoire

In addition to the elements already mentioned, section A features a citation of a fragment from the cadenza of the first movement of Ravel's *Piano Concerto in G*. My decision to include this external material came about in a way entirely consistent with the phenomenon described in sub-chapter 2.4.2. (Doubtlessly, the insistent use of trills in my own material gave rise to a connection with the similarly constituted cadenza from the Ravel concerto.) I opted to cite this material, just once, and in lieu of a variant of my own material which would otherwise have occupied that position in the score. Placement of it in time is contrived to forestall predictability vis-à-vis the recurrent/repetitive nature of associated piano figures in the section. I would position the perceptual effect of this citation (shown in Figure 3-5) roughly in the middle of my *explicit* vs. *discreet* spectrum: while this external material is palpably stylistically incongruous with its surroundings, its *gestural similarity* to the (by now familiar) preceding material in the pianos diminishes its 'foreignness' within the context.

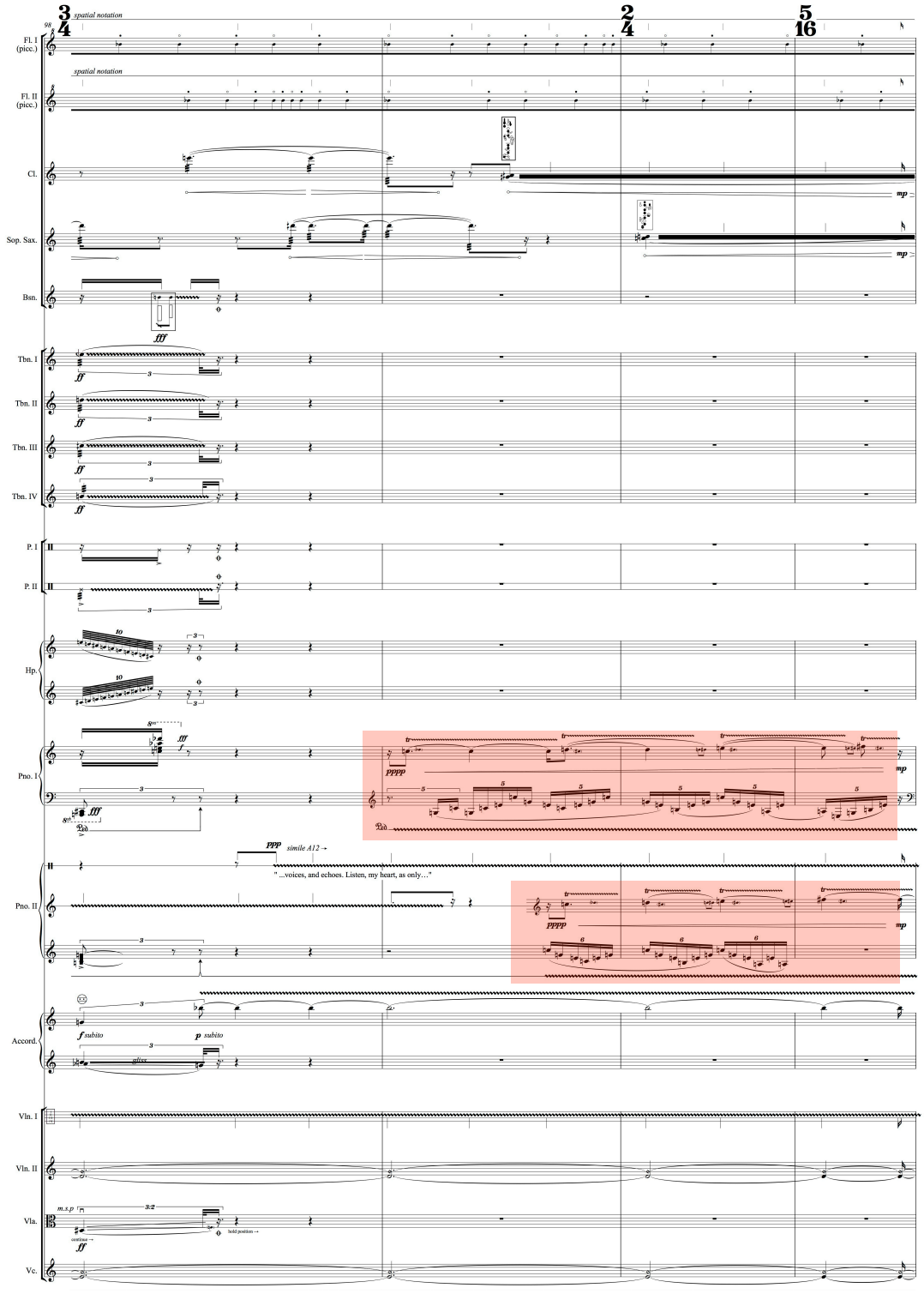

Figure 3-5 – *OARP*, mm. 99-101, with citation of a fragment from Ravel's *Piano Concerto in G*

3.2.2. Text & speech

As mentioned, this section makes use of speech in a manner consistent with that described in Sub-chapter 2.4.1. The text in question was taken from Rainer Maria Rilke's *Duineser Elegien* **[**'Duino Elegies'] (1923), specifically from the first of the set of ten. (All recited text is given in Appendix 4: Original and translation of text used in section A4–15 & C2–5, from R.W. Rilke's *Duineser Elegien, Die Erste Elegie.* It is presented in a fairly fragmented, non-linear manner: typically, only a few consecutive words are used, or sentences begun by one member of the ensemble are left incomplete for long periods, being taken up and completed only much later by another. The original German is also freely combined with an English translation. Beyond the occasional word here and there, all recitations are intended to be unintelligible throughout; most are spoken through wind and brass instruments, and those performed by the pianist, harpist or either percussionist are timed in order to be largely subsumed sonically by accompanying instrumental material.

The decision to use this particular text was made fairly early on in the overall creative process; as I was beginning to conceive the material with which I would construct the piece, I had in my mind an isolated line from the middle of Rilke's first elegy:

Seltsam, alles, was sich bezog, so lose im Raume flattern zu sehen.

...which may be translated literally:

Strange, Everything that was related, so loose in space, fluttering.

...or more poetically:

To see, where things were related, only a looseness fluttering in space.

The more I familiarised myself with the nuances of the text which contains this wonderfully evocative phrase, the more I found notions in which I perceived parallels to the musical universe which I was seeking to create.

Wer, wenn ich schriee, hörte mich denn aus der Engel Ordnungen? und gesetzt selbst, es nähme einer mich plötzlich ans Herz: ich verginge von seinem stärkeren Dasein. Denn das Schöne ist nichts als des Schrecklichen Anfang, den wir noch grade ertragen...	Who, if I cried out, would hear me among the angelic orders? And even if one were to suddenly take me to its heart, I would vanish into its stronger existence. For beauty is nothing but the beginning of terror, that we are still able to bear...

Figure 3-6 – Opening lines from R. M.Rilke's *Duineser Elegien – Die Erste Elegie* (1923)

The central theme of the elegies is an angel, an elaborate metaphor for an imagined Übermensch that inverts the notions of a concrete present in which language and perception are apt to operate, and that of an abstract and invisible *other* encompassing past, present and future. (It is clearly not to be interpreted as a reference to any homonymous notion connotative of the Judeo-Christian tradition.) In a letter from 1925 to one of his translators, Rilke defines his 'angel' as:

> [...] that being who attests to the recognition of a higher level of reality in the invisible – Terrifying, therefore, to us because we, its lovers and transformers, still cling to the visible. (Rilke 1925)

The presence of these texts in my work constitutes the incorporation of a found object, one which is evocative of notions of limitations of language, unconscious resonances of the past and an imagined future and their conflict with the destructive nature of time and memory, and the dread of transience.

3.2.3. Graphic representation

Finally, given the 'object-oriented' nature of this section, it was helpful for me to structure my material temporally using the system described in subchapter 2.5; Figure 3-7 is a small extract of a graphical-representation depicting the disposition in time of multiphonics at rehearsal mark A2.

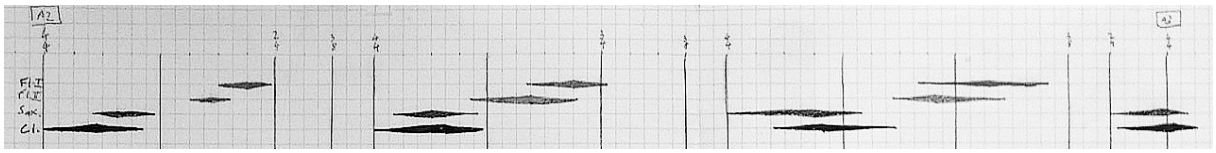

Figure 3-7 – *OARP*, graphic representation corresponding to mm. 6-16; Nb. the final score varies slightly from this representation

3.3. Section B

In contrast to the preceding section, B operates according to linear processes of transformation; as such, it was not deemed useful to employ any system of graphical representation in its construction. This section may be subdivided into three periods:

- initial growth of intensity (global crescendo, thickening of orchestration; rehearsal-marks B1 to B3 inclusive)
- a sustained, high-intensity passage (corresponding to the section from B4 to the end of B6)
- protracted dissipation, in the form of a.) a linear reduction of tempo, and b.) a globalised *diminuendo* (rehearsal-mark B7)

The following graph illustrates the time proportions of each of the three periods:[8]

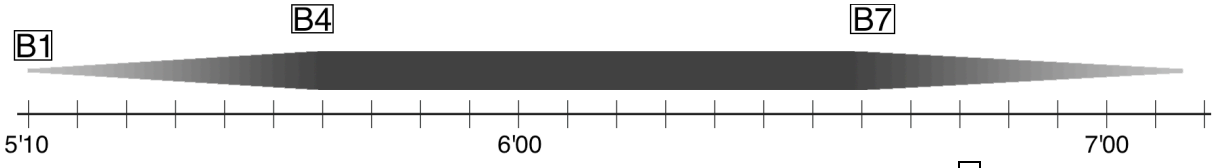

Figure 3-8 – visual summary of intensities in *OARP,* section B

[8] Nb. Time-markings given assume a performance at precise tempo, and do not align perfectly with those from the recording.

The onset of this section is signalled by the introduction, in piano II, of a second (this time relatively discreet) citation of Ravel's *Piano Concerto in G.* (See APPENDIX 2 for the relevant excerpt.) This appropriated figure—consisting of a series of descending F# major/E minor arpeggios covering almost the entire tessitura of the piano—is promptly imitated by piano I (albeit in a slightly varied form), and the two repeat the material in a loop which gradually undergoes development in terms of harmonic content, intensity and finally, tempo.

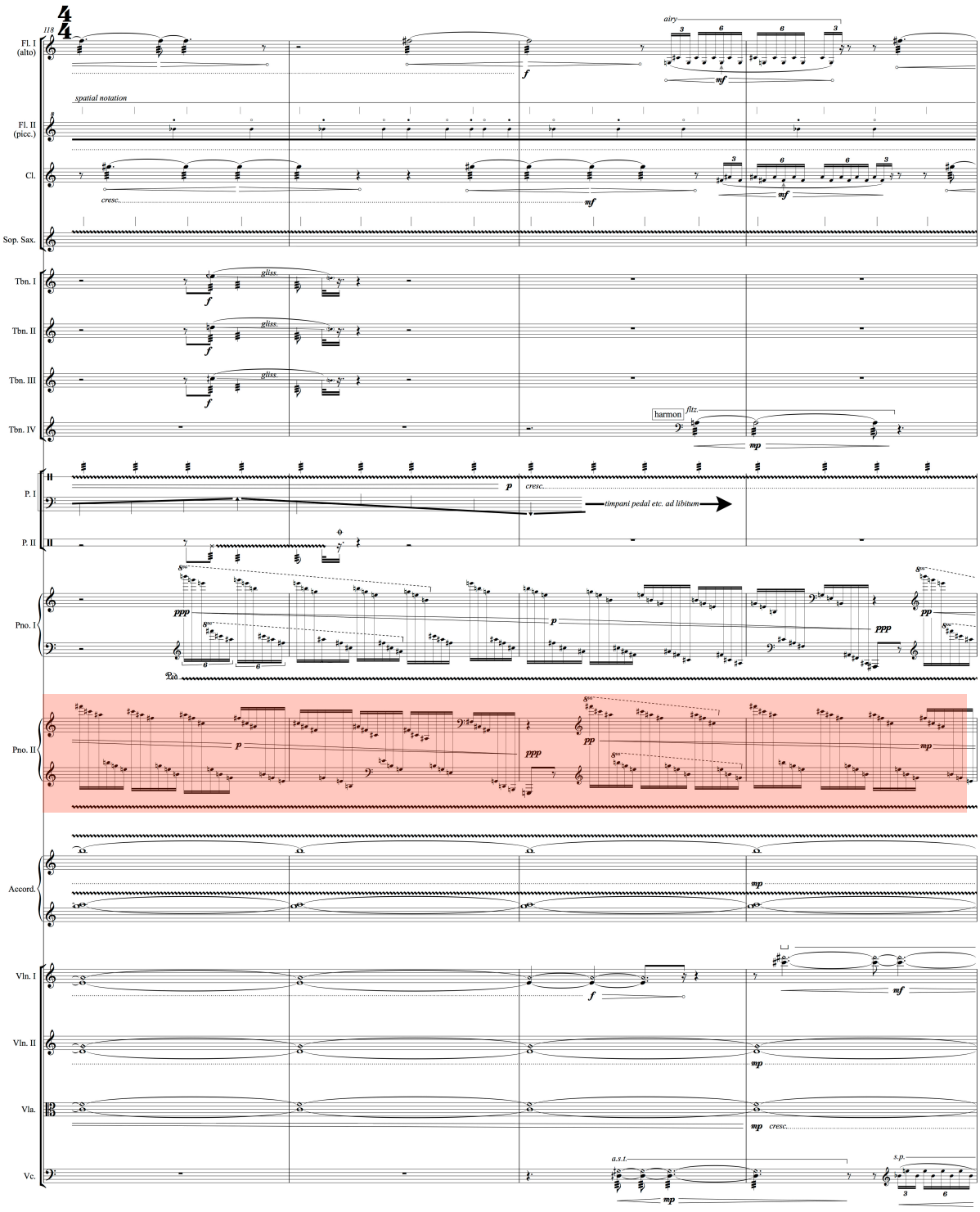

Figure 3-9 – *OARP*, pp. 25, with a citation of a fragment from Ravel's *Piano Concerto in G*, 1st mvt.

In contrast to the cited material in A, the choice to use this material was not the *direct* result of an unconscious association; it had been my intention here to create new material for the pianos

which shared the circular, imitative quality of the figures used in section A, but which would also (in contrast to that of section A) serve as a means of clearly articulating harmony. Having listened repeatedly to Ravel's concerto during the period in which I was composing this work (on account of its perceived connection to material already described), certain elements from it, including this passage, remained prominently in my mind. When the moment came to create material for this section, the figure from Ravel somehow kept imposing itself; indeed, its persistent, intrusive presence—as I was playing out in my mind the various possibilities for how I might go forward—compelled me to use it. Had the connection between Ravel's cadenza and my own material not become apparent, this material would certainly not have been included. To paraphrase Robert Rauschenberg, if something already exists that expresses what you want to express, why not take it?

The cited material in this section, initially highly salient and very much in the foreground, ultimately fades into the background starting at B4. In this second period of section B, a pedal-tone is established (C2), upon which the continued, downward-motion of the material in the pianos is balanced by a competing, quasi-melodic ascending figure, played by violins I & II, viola, accordion and flutes I & II (here both playing piccolo).

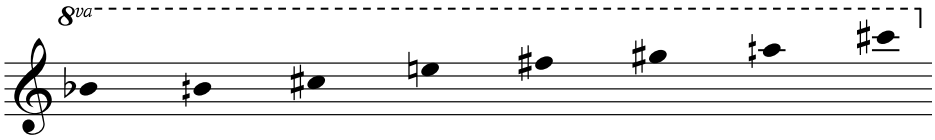

Figure 3-10 – pitches from a quasi-melodic ascending ostinato, used from B4 to the end of B6

The low pedal-tone is reinforced with the addition of pitches, played by trombones I, II & III, associated with a harmonic spectrum [specifically, pitches corresponding to *f*s 12, 13 & 14] with a fundamental two octaves below the pedal itself (i.e. C0; I often use this technique as a means of compensating for an absence of strong low-register instruments).

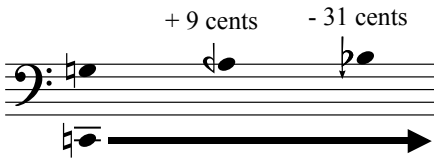

Figure 3-11 – pitches played by trombones I, II & III, intended to reinforce spectrally the C2-pedal

The juxtaposition of downward & upward motion present here is intended to mirror that of the condensed, salient material in section A. Furthermore, the melodic material shown in Figure 3-10 is also intended to evoke the contours of the woodwind-multiphonics object of A2. Given then that the pitch material for two of the three primary layers here (descending arpeggios in piano, and the C2 pedal with trombone reinforcements) is determined according to a particular set of factors (in the case of the former, consistency of cited material; for the latter, harmonic association), it is essentially only the melodic figure just mentioned that makes use of the work's prescribed pitch-set in this section.

3.4. Section C

C is by far the most protracted section in *OARP*. Following the dynamic and harmonically lucid section B, the piece reprises its opening: a thin scattering of pitch material upon a background layer of white-noise. Since the listener will, by my calculations, be anticipating a return of the abrupt, intense interjections of the opening section, the largely static material is endowed with a new tension in this second incarnation. After nearly one full minute of relative stasis, such an intrusion finally appears (rehearsal-mark C2), albeit one that is in stark contrast to its counterparts from section A: here I placed a third citation from Ravel's concerto, one which is caricaturally conspicuous and out of context. For the first time, the citation (the only to be taken from the third movement of Ravel's concert; see APPENDIX 3 for the relevant excerpt) is orchestrated across the whole ensemble, and is explicit in the extreme:

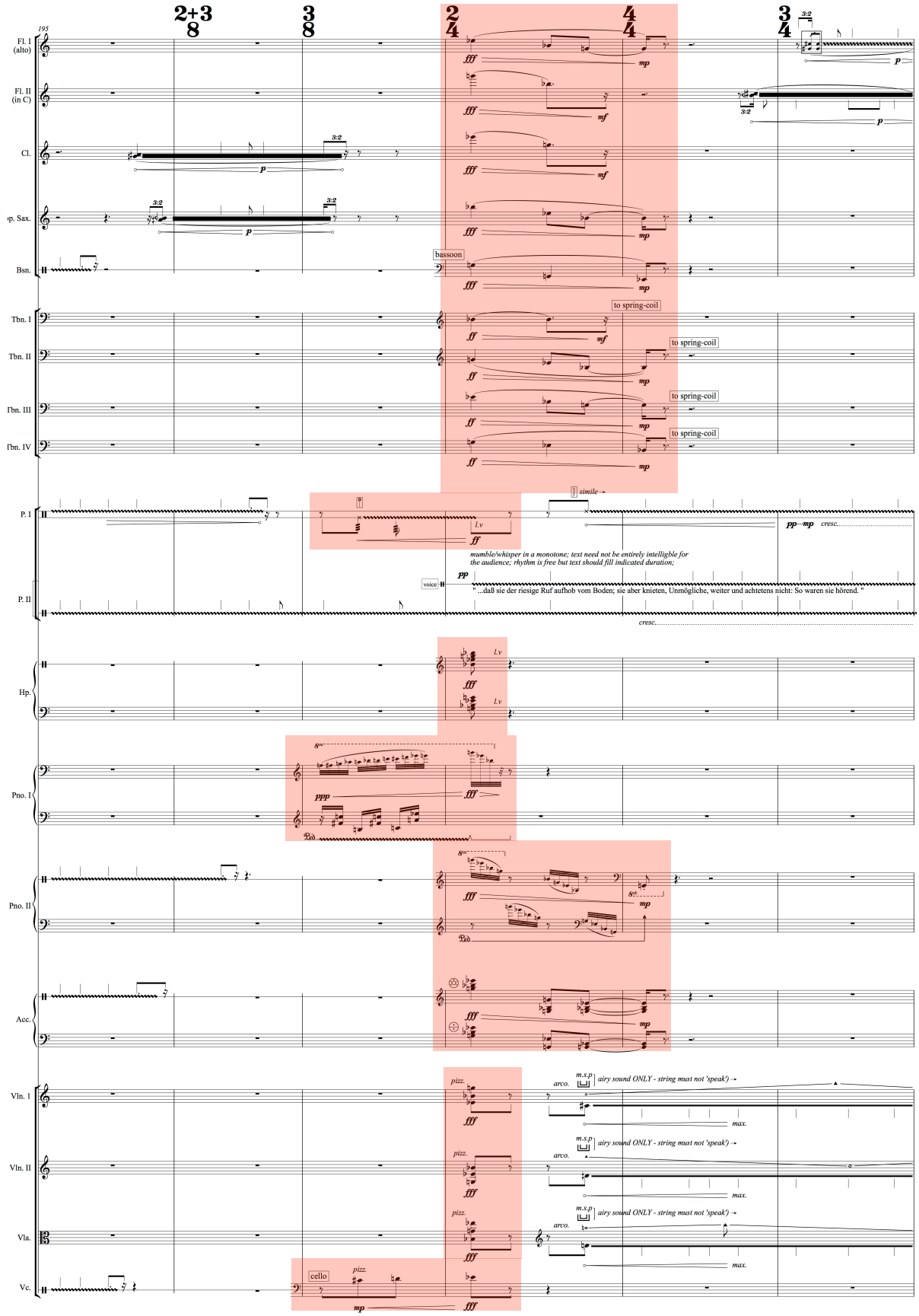
195
2+3/8
3/8
2/4
4/4
3/4
Fl. I (alto)
Fl. II (in C)
Cl.
Sp. Sax.
Bsn.
bassoon
Tbn. I
Tbn. II
Tbn. III
Tbn. IV
to spring-coil
P. I
P. II
simile →
l.v
mumble/whisper in a monotone; text need not be entirely intelligible for the audience; rhythm is free but text should fill indicated duration;
voice
" ...daß sie der riesige Ruf aufhob vom Boden; sie aber knieten, Unmögliche, weiter und achteten nicht: So waren sie hörend. "
cresc.
Hp.
Pno. I
Pno. II
Acc.
Vln. I
Vln. II
Vla.
Vc.
pizz.
arco.
m.s.p
airy sound ONLY - string must not 'speak') →
max.
cello

Figure 3-12 – *OARP*, pp. 43

This protracted way in which the section's static material is presented is intended to be in reverse proportion to the condensed nature of this highly salient gesture. According to my own criteria, such an object rates highly on the salience scale in every respect:

- it is contrasting in type, i.e. it exhibits clear harmonic coherence within the context of a texture which is largely composed of noise-elements
- it is at the extreme end of the spectrum vis-à-vis its degree of referentiality; whilst the listener may not necessarily be able to place its provenance, I feel that it will broadly be deemed, at the very least, highly 'familiar'
- it represents an abrupt, short-lived *increase* in intensity
- it is not subject to repetition and has no obvious precedent, at least perceptually-speaking, in the work
- it is highly condensed, and arrives after a protracted period

Therefore, let this object function as an experiment to determine the veracity of my hypotheses regarding objects of such constitution and their potential salience!

Following this event, there is a period of gradual densification of repeated elements from the work's opening. Rilke's texts reappear (C2-5, percussions I & II, harp and accordion), this time in the form of longer, more complete segments which are somewhat less absorbed here into the instrumental texture. This material is ultimately interrupted by the arrival of the brief but intense coda-like section D.

3.5. Section D

In contrast to the gradual transition (by way of protracted increase in harmonic density) which bridges sections A and B, here the arrival of section D arrives largely without preparation or transition. The section consists of the following sequence of six bipartite harmonic sound masses:

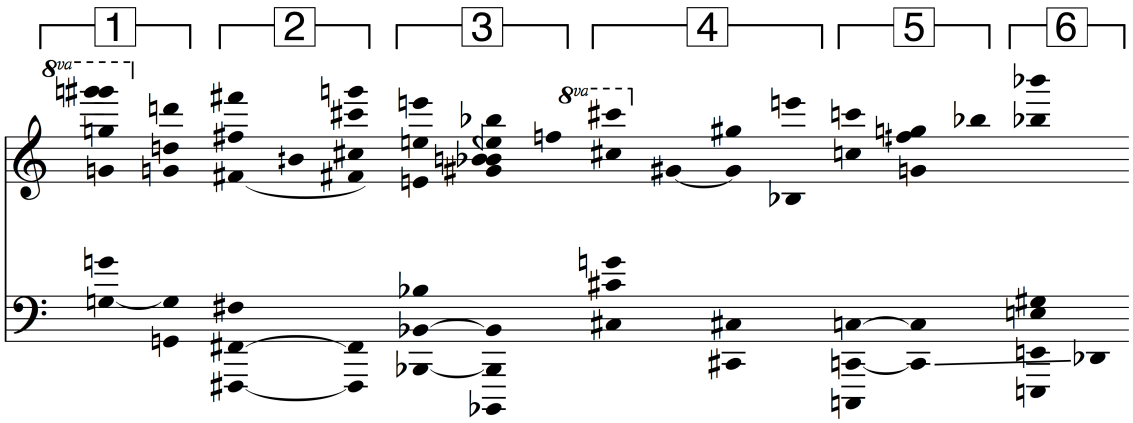

Figure 3-13 – reduction of harmonies in *OARP*, section D

The harmonic blocks shown in Figure 3-13 fade into one another—each harmony undergoes a linear crescendo/diminuendo dal/al niente—in such a way that the characteristics of each vertical group are generally only clearly conveyed at the apogee of their intensities, while the rest of the time, they are obscured by the resonance of the previous, or onset of the following, collection of pitches. The first group in each vertical block serves primarily to 'introduce' the pitches contained in that harmony while the second is intended to reinforce it, and then to function as a resonance in its gradual disappearance. The following graph shows the distribution of these six blocks, with the first group in each block shown in light grey and the second in dark; the numbers in squares correspond to those in Figure 3-13.

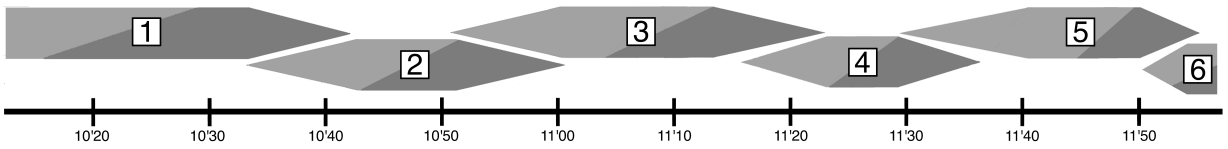

Figure 3-14 – representation of distribution of harmonies in *OARP*, section D

Distinct from the sustained tremoli performed by most instruments, the two flutes (here both using piccolos) perform more animated material constructed of looped sequences of pitches that are spectrally related to the fundamentals of each harmonic block. The trombones are the only instruments to perform material which do not contribute to the statements of harmony as described above; rather, they perform a sort of Shepard tone sequence which is intended to create a sense of perpetually descending motion.

It was my objective in creating this section to contrast the contoured perceptual topography of preceding material with a musical surface which is essentially two-dimensional: global intensities are more or less constant, harmonic movement is regular and predictable, repetitive figures (such as those of the two piccolos) undergo no tangible development, etc. In this way, the work may be seen globally as a protracted transition from noise to pitch. The material with which this section is composed is distinct from, and wholly unrelated to any pitch material which is present in the work up to this point. I am frequently inclined to introduce entirely new material in the final episodes of my works, as a means of implying that the piece continues to evolve hypothetically beyond its conclusion. Such a notion is consistent with a practical application of my hypothesis on the use of protracted and condensed durations. Here, in a work lasting roughly 12 minutes, slightly more than ten are constructed using a modest reservoir of related materials which are characterised by protracted periods of stasis and relatively linear transformations. The remaining two minutes, in contrast, consist of highly condensed, contrasting material which is not given time to develop or evolve into a balanced section in its own right.

3.6. Final words

As I hope this dissertation has conveyed, the composition of *OARP* has allowed me to explore, sometimes in new ways, many of the notions and concepts which have been present in my music since at least 2009. At present, the ideas which I have described in this dissertation constitute the syntax by which I may best articulate my musical ideas and, more broadly, assert my identity as a composer. These notions will doubtlessly remain at the centre of my music over the coming years.

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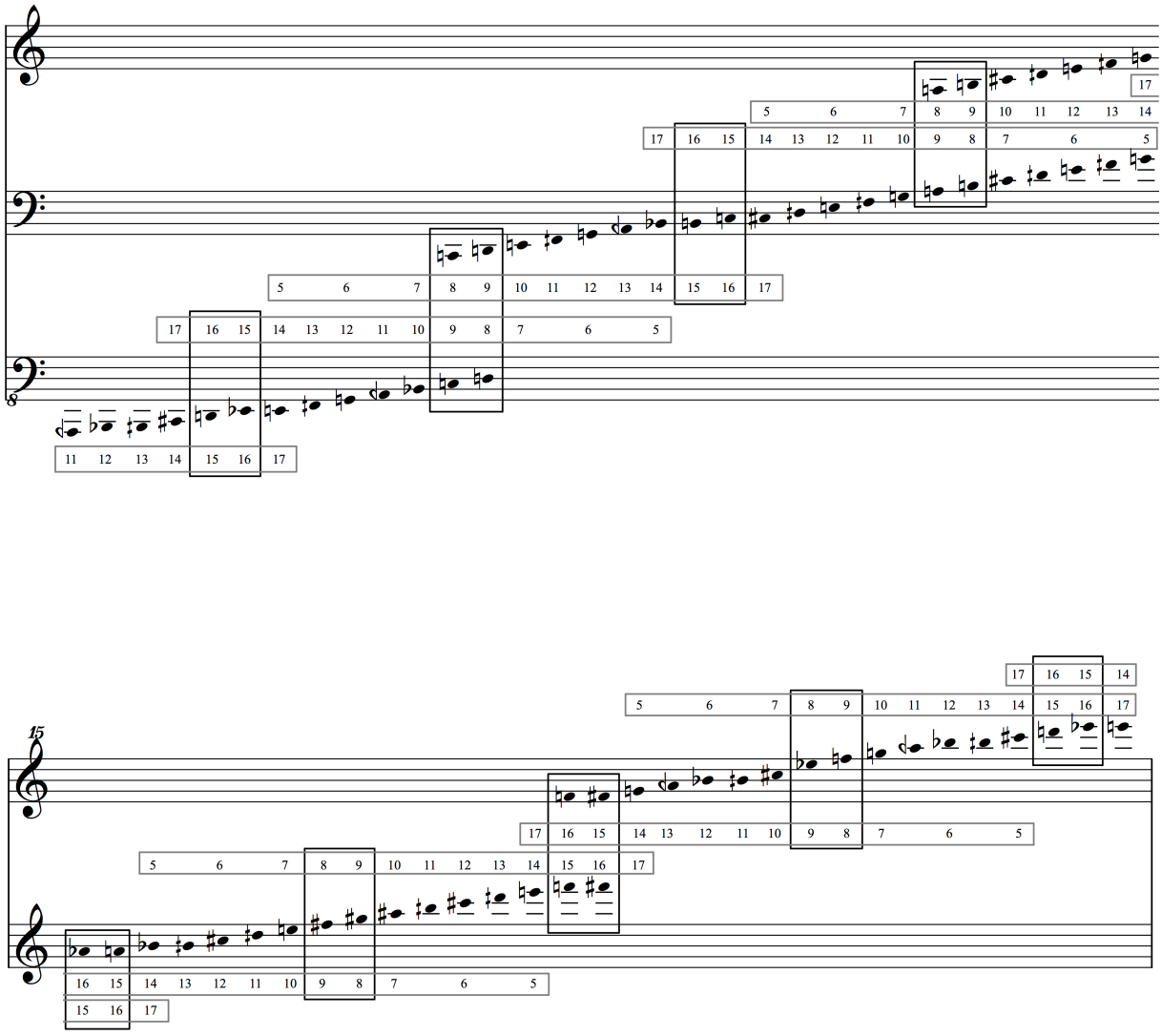
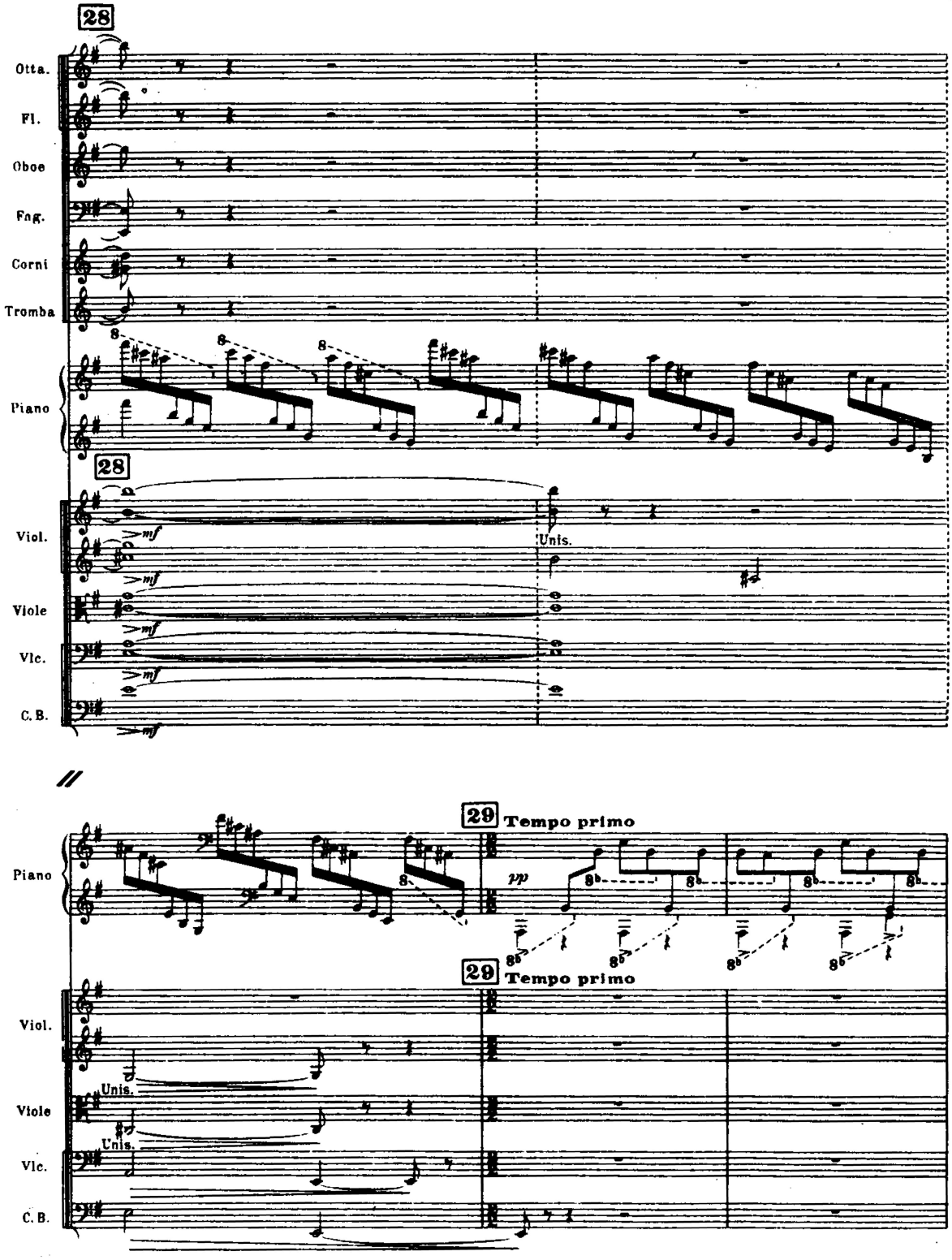
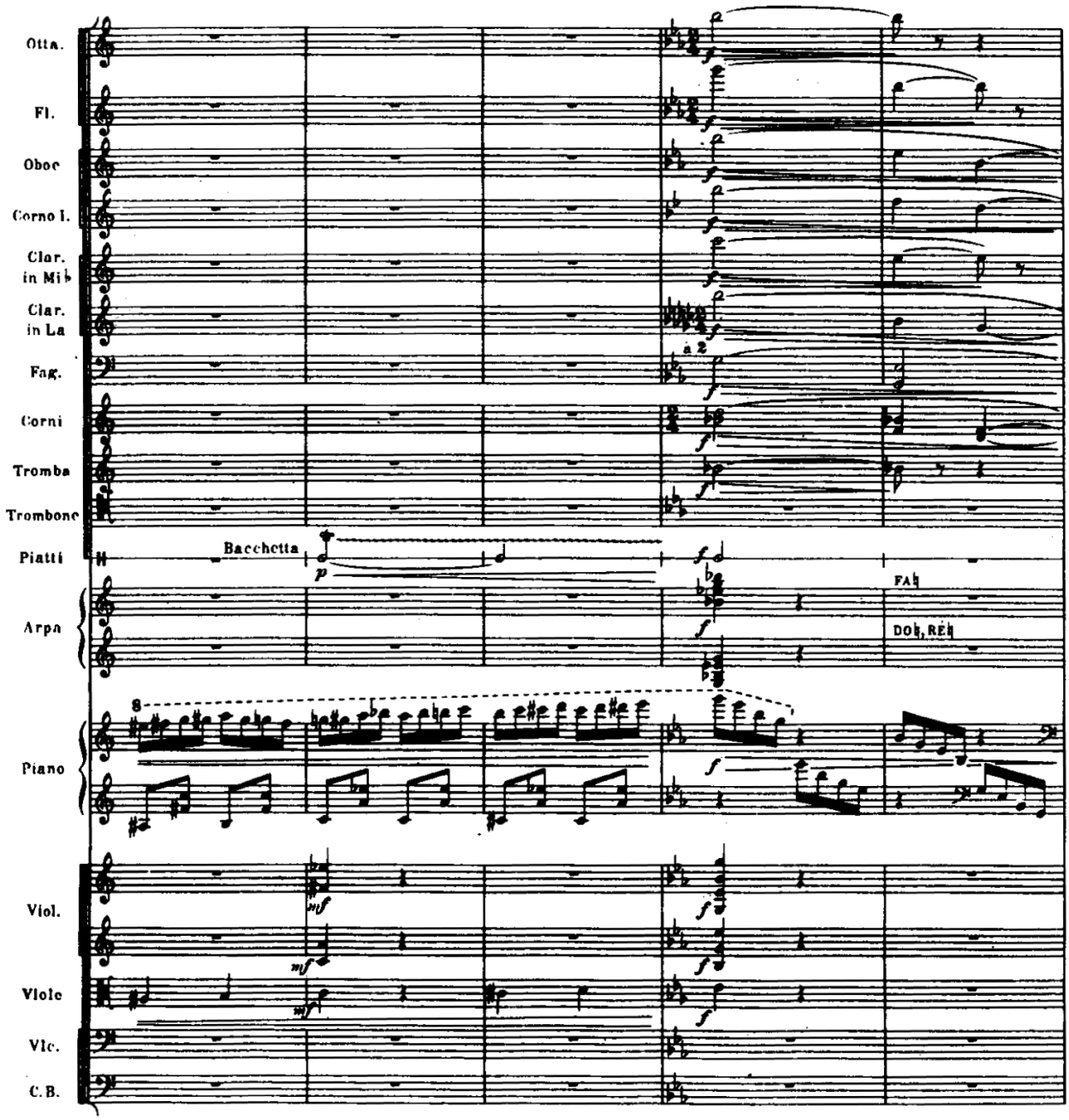
APPENDIX 1: PITCH-SET USED IN THE COMPOSITION OF *OARP*



APPENDIX 2: MM. 252-256, RAVEL: *PIANO CONCERTO IN G*, 1ST MVT.



APPENDIX 3: MM. 149-153, RAVEL: *PIANO CONCERTO IN G*, 3RD MVT.



APPENDIX 4: ORIGINAL AND TRANSLATION OF TEXT USED IN SECTION A4–15 & C2–5, FROM R.W. RILKE'S *DUINESER ELEGIEN, DIE ERSTE ELEGIE.*

A4	*Stimmen, Stimmen. Höre, mein Herz, wie sonst nur Heilige hörten...* *Wer, wenn ich schriee, hörte mich denn aus der Engel Ordnungen?*	Voices; voices, and echoes. Listen, my heart, as only saints listened of old... Who, if I cried out, would hear me among the angelic orders?
A5	*Warst du nicht immer noch von Erwartung zerstreut?* *Denn Bleiben ist nirgends.*	Weren't you always distracted with expectation? It is death to stand still.
A9	*Weißt du's noch nicht? Wirf aus den Armen die Leere zu den Räumen hinzu, die wir atmen...* *Denn das Schöne ist nichts als des Schrecklichen Anfang...*	Haven't you grasped it yet? Throw from your arms the nothing that lies between them into the space that we breathe as an atmosphere... For beauty is nothing but the beginning of terror...
A10-11	*... Anfang, den wir noch grade ertragen, und wir bewundern...* Who, if I cried out, would hear me among the angelic orders? Throw from your arms the nothing that lies between them into the space that we breathe as an atmosphere... ... and even if one were to suddenly take me to its heart, I would vanish into its stronger existence.	... terror we barely sustain, and we worship...
A13	... voices, and echoes. Listen, my heart, as only...	
A15	Throw from your arms the nothing that lies between... Weren't you always distracted with...	

C2–3	*... daß sie der riesige Ruf aufhob vom Boden; sie aber knieten, Unmögliche, weiter und achtetens nicht: So waren sie hörend.*	... till the giant summons lifted them from the ground – but they went on kneeling, impossibly, and stopped the ears of the heart.
	Ein jeder Engel ist schrecklich. Und so verhalt ich mich denn und verschlucke den Lockruf dunkelen Schluchzens.	Each angel burns. And so I hold back, and swallow down the yearning, the dark call heard in the cave of the heart.
	And so I hold back, and swallow down the yearning, the dark call heard in the cave of the heart.	
	... wir nicht sehr verläßlich zu Haus sind in der gedeuteten Welt. Es bleibt uns vielleicht irgend ein Baum an dem Abhang, daß wir ihn täglich wiedersähen;	... that we do not feel too much at home in our interpreted world. Perhaps we can call on a tree we noticed on a slope somewhere and passed in our daily walk;
	Seltsam, alles, was sich bezog, so lose im Raume flattern zu sehen.	To see, where things were related, only a looseness fluttering in space.
C4–5	But listen for the whisper, the wind that breathes out of silence continuing news.	
	... even the sly beasts begin to perceive that we do not feel too much at home in our interpreted world.	
	... wen vermögen wir denn zu brauchen? Engel nicht, Menschen nicht, und die findigen Tiere merken es schon, daß wir nicht sehr verläßlich zu Haus sind in der gedeuteten Welt.	... who then can serve our need? Not angels, not human beings; and even the sly beasts begin to perceive that we do not feel too much at home in our interpreted world.
	... es bleibt uns die Straße von gestern und das verzogene Treusein einer Gewohnheit, der es bei uns gefiel, und so blieb sie und ging nicht.	... the streets of a city we knew, or a habit's dumb fidelity, a habit that liked our space, and so it stayed.